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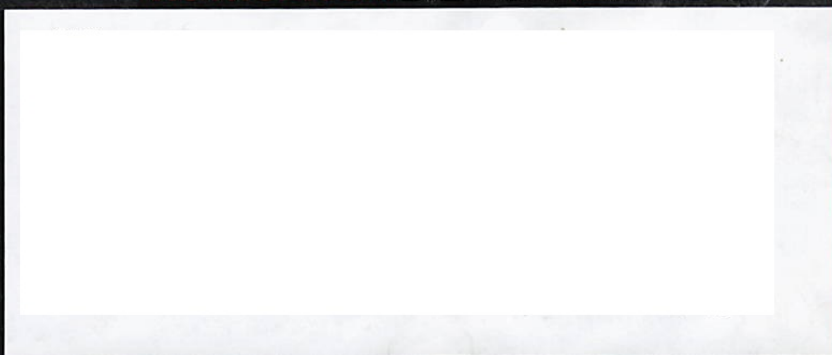
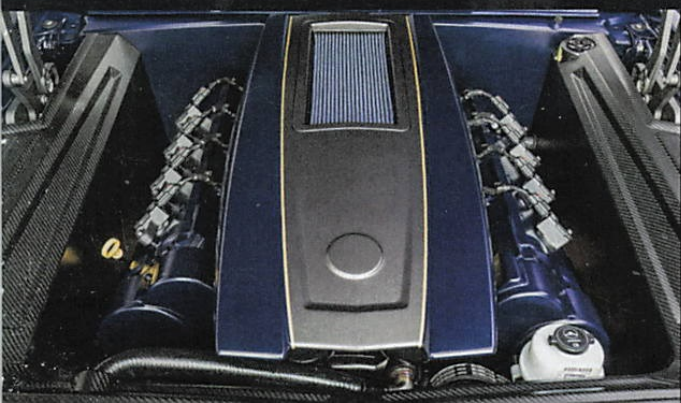
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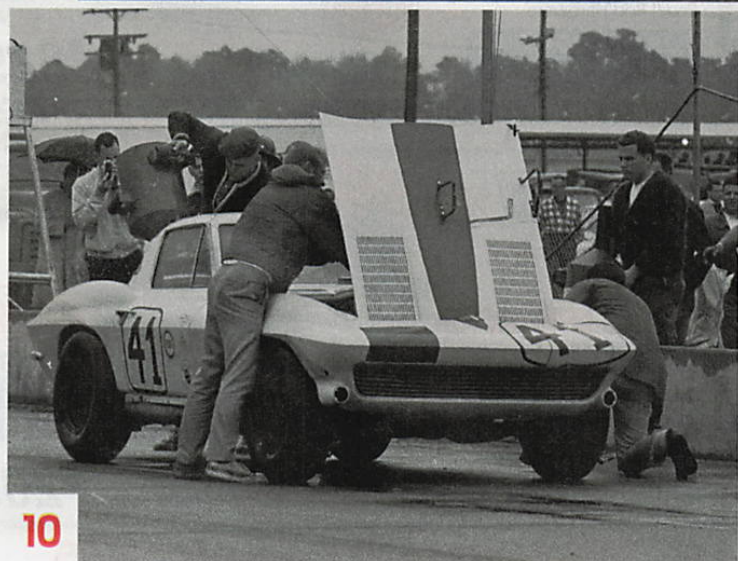
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ON THE COVER:
This Camaro looks good wearing Ferrari paint.
Photo by Jorge Nunez

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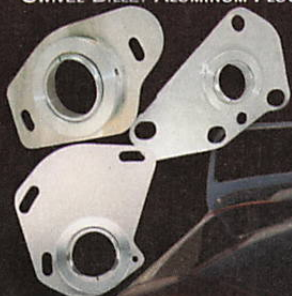
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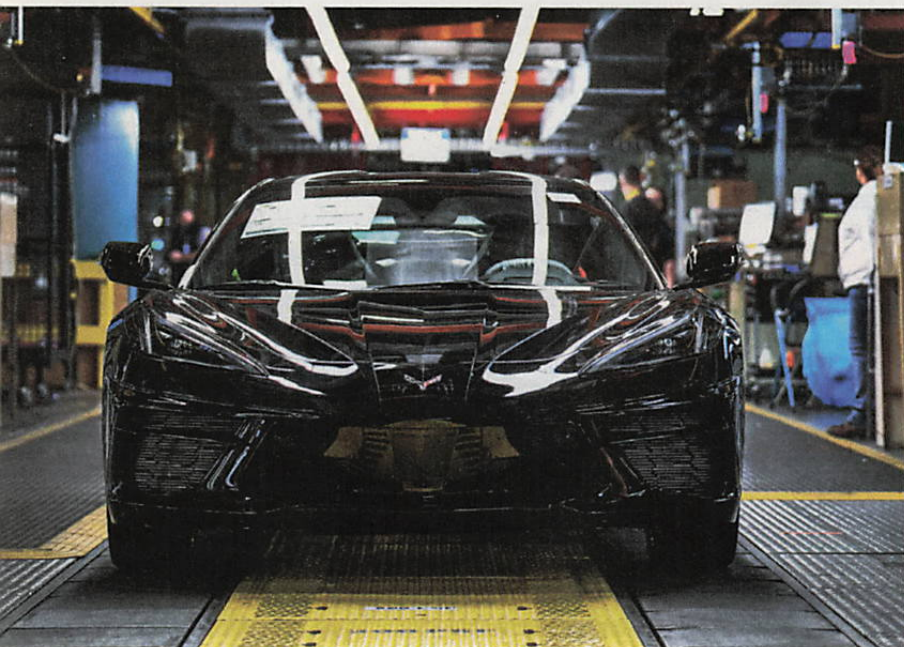
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By John
McGann

Editor-in-Chief
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Why I Want A New Corvette

By now, the first 2020 Corvettes will be reaching Chevrolet dealership showrooms and happy customers will be taking delivery of this highly anticipated, mid-engine C8 platform. I wouldn't mind being one of those people, though there's no way I could afford one right now.

I'm not into new cars, so if I had the money and was forced to spend it on a new vehicle, I'd struggle with what to buy. I like Challengers; I think they're the best looking of the current crop of muscle cars, or GT cars, or whatever the segment is evolving into. I'd probably eschew the blower-whine bravado of the Hellcat versions and opt for a Scat Pack Widebody with the six-speed manual transmission—simple good looks, plenty of power, big tires, and the purity of changing your own gears. Nothing else in dealership showrooms really floats my boat. Honestly, I'd rather buy a motorcycle instead and keep my old pickups running.

The Corvette is different, though. I've mentioned before that I have an affinity for these cars, especially the steel bumper C3s. My dad owned a Forest Green 1969 with the Tri-Power 427 and a four-speed before I was born, and I've spent many childhood hours perusing pictures of that car in my parents' old photo album, so Corvettes have been on my radar since I was a little kid. I remember being disappointed to see the Corvette get defanged as the C3 platform ran its course into the '80s, with tacked-on spoilers and wheezy performing, low-compression small-blocks. The C4 was exciting by comparison, and I'd love to own (or even just drive) a ZR1 from that era so I could experience the overhead-cam LT5 engine. I wasn't a huge fan of the C5's looks, with the exception of the Z06, but I appreciate its step forward in

performance with the rear-mounted transmission for better weight distribution and improved cabin room. I really liked the C6 design and got to see one up close as an employee here at the publishing company when the C6 Z06 was released. *MotorTrend* booked a shoot in our photo studio during my time as the studio manager, and its canary yellow paint blazed under our studio lights. Personally, I think the C7 is fussy looking, and I wish they kept the round, or roundish, taillights from the previous generation, but there's no denying the stellar performance of that platform.

It's ironic, then, that I've driven very few Corvettes in my life. I've only been a passenger in a C3, I've never driven a C4 or C5, and have had very limited time behind the wheel of a C6. I guess that's because most of my career has been with *Car Craft*, and Corvettes of any kind didn't fit very well into our editorial plan. Hopefully I can reverse that trend, because I'd love the chance to drive the C8. Feedback I've heard from *MotorTrend's* test drivers has been universally positive.

Rumors of a mid-engine version have swirled for more than 50 years, and several prototype cars have been built in that time. Seeing the assembly line pictures from Chevrolet, that rumor has finally become a reality. Plus, with the debut of the C8.R race car at the Rolex 24 Hours of Daytona, we can assume that an overhead cam V8 will be available in the road-going car in the near future. I'm hoping that version comes with a clutch pedal! Either way, the C8 is a car 67 years in the making. It's arguably the most highly anticipated Corvette since the car's introduction.



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By Douglas Glad

Network Content Director
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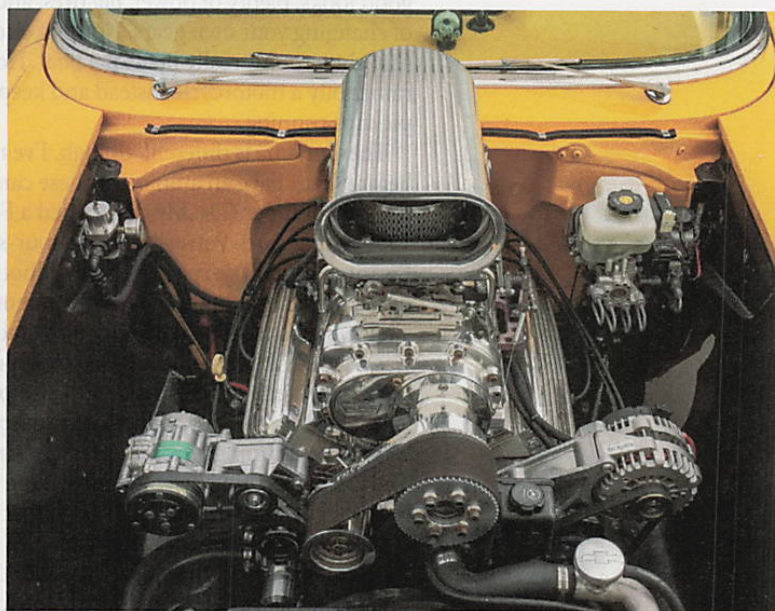
How the Formosa Group Created the Car Soundtrack for the *Fast & Furious* Presents *Hobbs & Shaw* Feature Film

Did you know that the sounds captured on the set of *Fast & Furious* aren't necessarily the same sounds that end up on film? Foley, named for the technique's inventor, Jack Foley, is the term used for a soundtrack or tracks that are added after the film is shot, during post-production, or just post. This is especially true for car movies, where most of the action is shot outside in an environment full of noise pollution. Formosa Group is a studio in Los Angeles—HOT ROD visited the Santa Monica location—that adds the vehicle noises to films you are familiar with. If you have seen *Mad Max: Fury Road*, the *John Wick* movies, or anything from the *Fast & Furious* franchise, you have seen, or more accurately heard, their work.

Their most recent car-guy-oriented movie is *Hobbs & Shaw*, a *F&F* spinoff that is loaded with Dwayne Johnson- and Jason Statham-level car abuse. To add as much authenticity as possible, the team at Formosa Group tries to use the actual cars used in the shoot, or a car of the same general make and model. Short of that, they might use a track from an existing sound library or even create the sounds in the studio. The creation of the soundtrack takes anywhere from 7 to 13 months, recording two cars per day. The recordings are done off set, at a remote site far away from exterior noises or traffic; not easy in a city like Los Angeles. Vehicle sounds in the library can come from

anywhere: natural sounds, artificial sounds created using non-automotive props, or sometimes unique motor and chassis combinations are sourced online.

We had the opportunity to spend a Friday with part of the crew from the *Hobbs & Shaw* production. Mark Stoeckinger, Paul Aulicino, and Charlie Campagna were willing to show us how the process works. We pulled Project X, our beloved 1957 Chevy, out of the HOT ROD garage to use as a movie prop, had the guys record its sounds on location, then went back to the studio to lay them on some Volkswagen SUV B-roll. The VW four-door utility blob never sounded better.



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CORVETTES AT DAYTONA: LOOKING BACK, LOOKING FORWARD

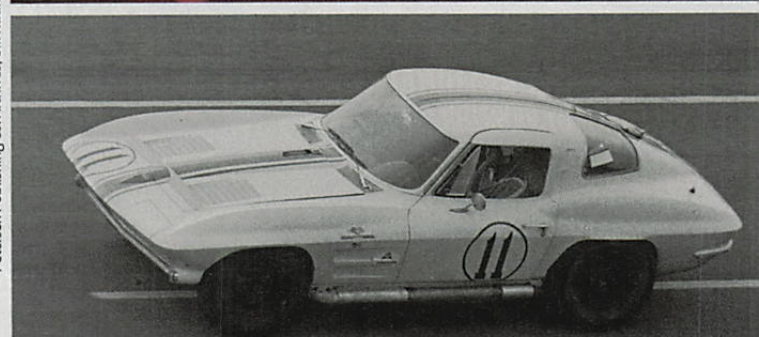
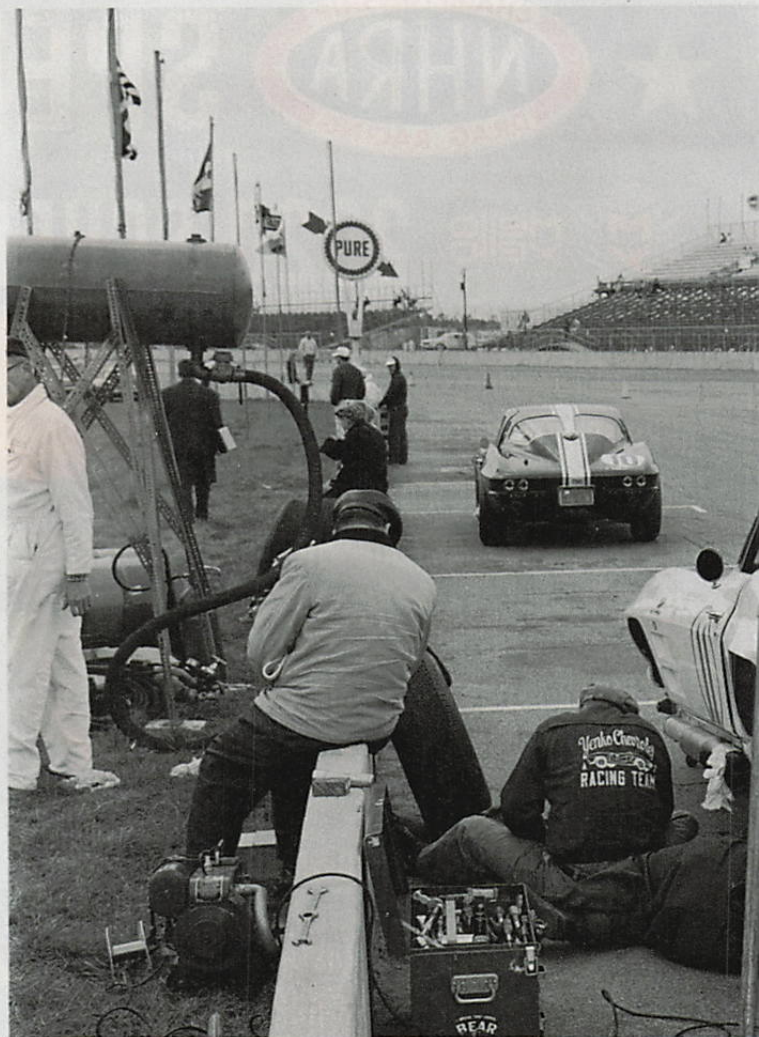
The 2020 Rolex 24 Hours of Daytona was completed just as we were wrapping up production of this issue. This event, the 62nd running of the historic endurance race at Daytona International Speedway, was the first official on-track race of the new, mid-engine Corvette C8.R race car, though it wasn't the first time the car was seen on-track. Last October, Tommy Milner took one on a hot lap around Road Atlanta prior to the start of the Petit Le Mans race. The car was on-track again at the beginning of January for the Roar Before the Rolex 24, basically a practice session and short enduro race three weeks before the Rolex 24.

This year, Chevrolet entered two cars in the Rolex 24, the familiar yellow Number 3 car, with drivers Jordan Taylor, Nicky Catsburg, and Antonio Garcia; and the silver-over-yellow Number 4 car, with Tommy Milner, Oliver Gavin, and Marcel Fässler competing in the seven-car field GTLM class.

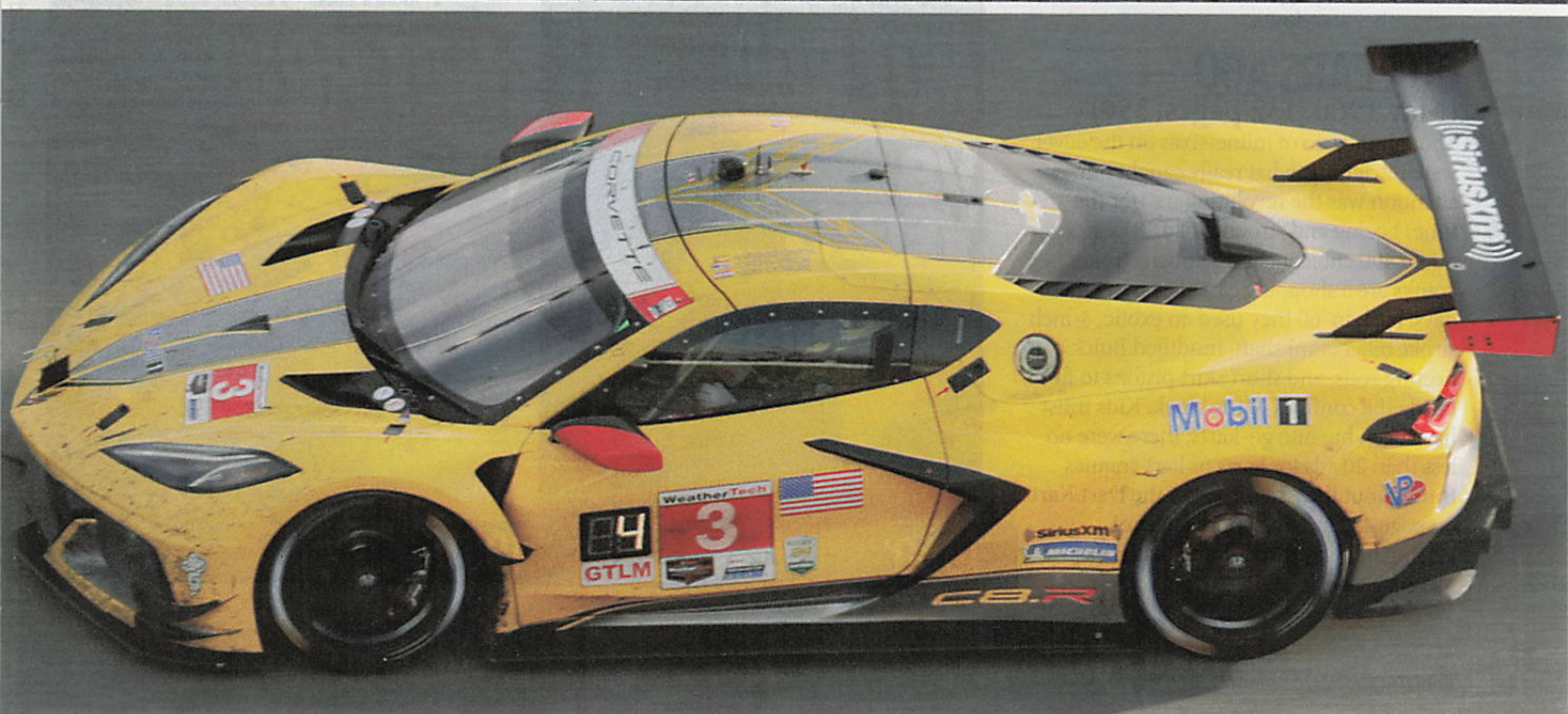
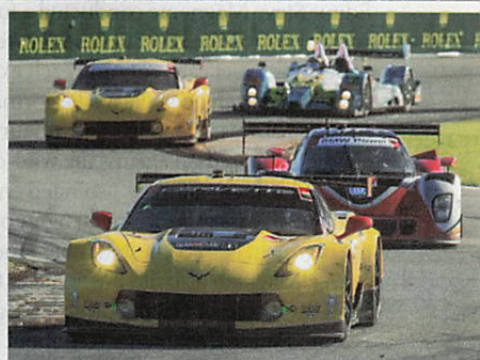
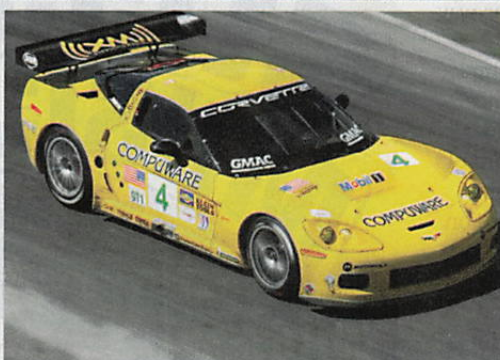
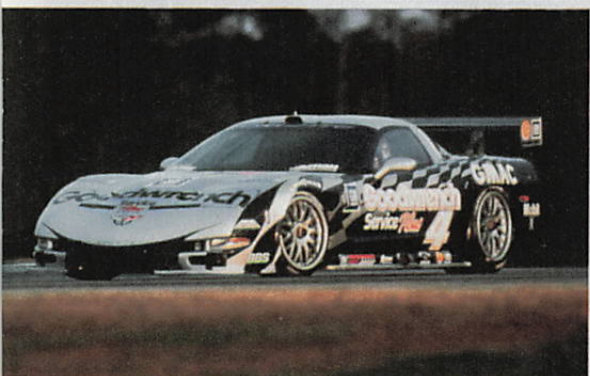
Overall, the cars performed well. Number 3 led its class for a while early in the race and finished in fourth place, one lap down from the class winner. The Number 4 car experienced an oil leak that led to a nine-hour, engine-out repair, taking them out of the race. They continued to run once the leak was fixed to get all-important data on the car and seat time for the drivers. The quickest lap for both Corvettes was turned in by Jordan Taylor with a 1:42.364, which was just two tenths of a second behind the class-quickest 1:42.168 by Jesse Krohn in a BMW M8. The cars are definitely competitive, which is impressive for the completely new C8 platform—a radical departure from any Corvette that came before it.

Contemplating that notion sent us perusing our digital archives, where we uncovered a close equivalent. In 1963, the then-new C2 Sting Ray would have looked just as radical to the eyes of those used to the swooping curves of the C1, a design that enjoyed a 10-year run with few changes. The angular lines of the C2 weren't the only newsworthy change, as that generation saw the introduction of the independent rear suspension, an architecture that has been a staple for America's sports car every generation since. The C2s seen here were photographed at Daytona, competing in 1963's 3-Hour Continental, the precursor to the 24-hour endurance race that was first held in 1966. Later, 1968 saw the debut of the C3 Stingray, another radical departure visually, though mechanically similar to the C2. Our archives yielded this uncredited nighttime photo of a 1968 'Vette, also shot at Daytona for *Sports Car Graphic*.

Though Chevrolet has supported race teams unofficially since the early '60s, the factory-backed Corvette Racing team was formed in 1999 to campaign the C5-R, a successful program that claimed three class wins at Le Mans and four manufacturer titles in the American Le Mans Series. The C6.R debuted in 2005 and continued to rack up the victories, winning 39 GT1-class races in American Le Mans from '05 to '09. The C7.R hit the track in the 2014 racing season and took a GTE Pro class win at Le Mans in 2015. Time will tell what's in store for the C8.R program, but it looks promising.



Petersen Publishing Co. Archives, GM Racing, GM Media Archive



The HOT ROD Archives

20 YEARS AGO

(May 2000, 152 Pages, \$3.99) The Street Muscle cover theme was a harbinger for solid street car tech inside this issue. Tech Editor Steve Magnante conducted a four-way comparison of the most popular power-adders for street cars, running each example on the chassis dyno at Harv's Performance Center. Nitrous, supercharger, and turbochargers squared off against the wild-card of a big cubic inch naturally-aspirated engine. Though all cars were winners in our opinion, the big-inch, N/A contestant made the most power. Magneto also did burnouts in the HOT ROD Hemi Dakota project car and Feature Editor Jeff Kotch wrote about Hot Wheels' Collectibles line. Currently, we're neighbors with Mattel, who's headquarters are less than three miles from our El Segundo, California office.

40 YEARS AGO

(May 1980, 144 pages, \$1.75) Tech Editor C. J. Baker revealed the completed "Ultimate Street Machine" V8 Vega, a car that combined Pro Street aesthetics in a functional street car complete with license plates and working headlights and windshield wipers. With a Dyers blower on a 383 Chevy, a TCI Powerglide, and a Dana 44 rear, the car ran 11.45 at 121.49 mph at OCIR with C.J. at the wheel. The V8 Vega theme continued with a six-page buyers guide penned by Al Kirschenbaum and current Tech-Editor Marlan Davis. Al also documented the build of a 500 ci. Mopar that he predicted would run in the 10's in a 3,100-lb 'Cuda, and Smokey Yunick's 675 hp small-block Chevy built to USAC standards were other standouts.

60 YEARS AGO

(May 1960, 132 pages, 35¢) Though the trio of inline-sixes on the cover were intriguing, what really caught our attention was the revolutionary (for the time) boring and stroking of a 283 Chevy out to 400 cubic inches. Though stroker cranks are a shopping cart click away these days, back in '60 they used an exotic, 4-inch stroke billet crankshaft, modified Buick connecting rods, and short skirt pistons to fit inside the confines of the block. Kids must have been big into go-karts; there were no less than 20 ads for karts or kart engines throughout the issue, a test of the Dart Kart on page 48, and four more pages of karting halfway through the magazine.

» John McGann

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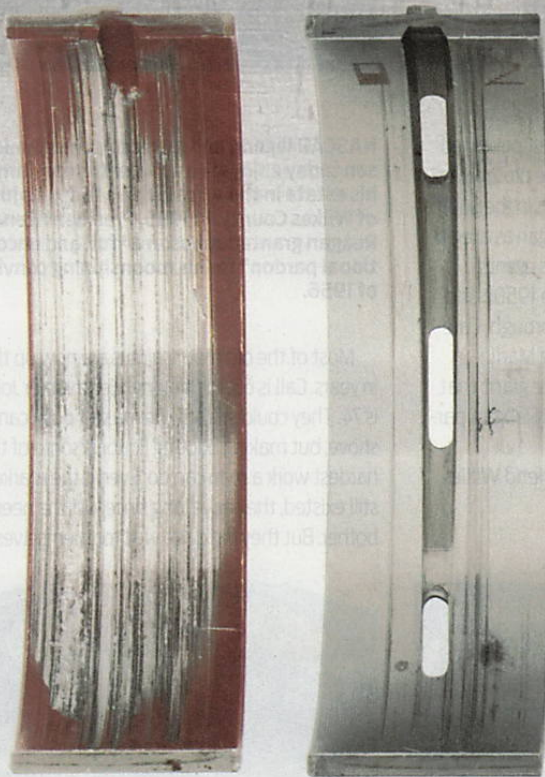
MAY 1960 35¢

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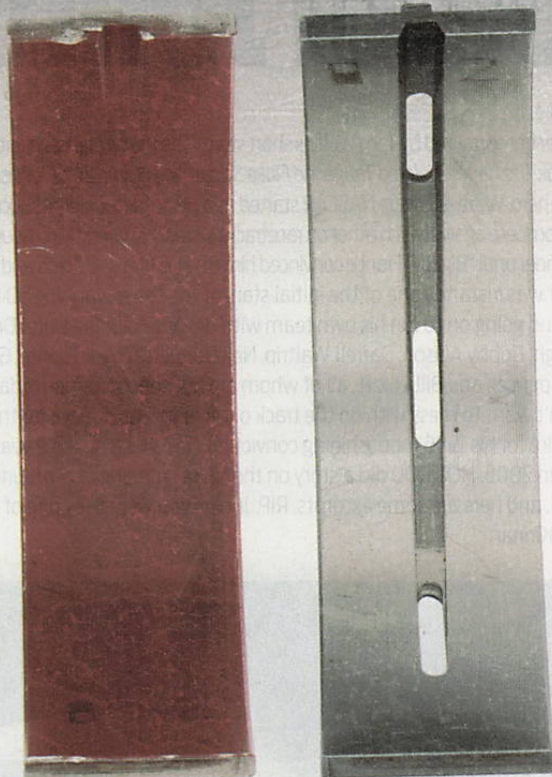
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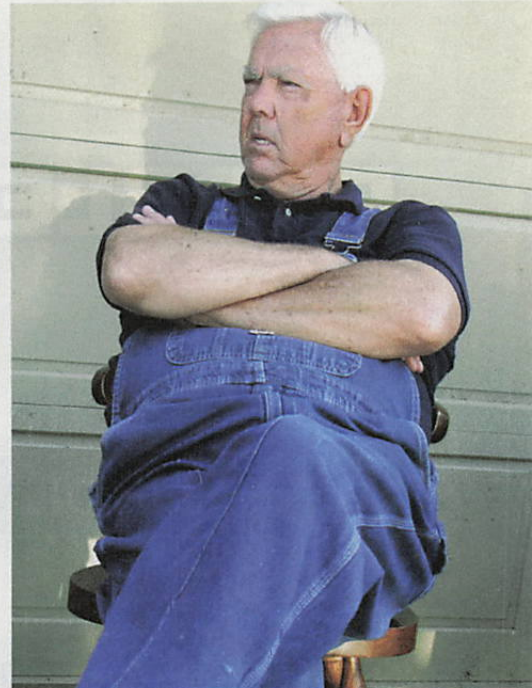


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Take Five With Moonshine Runners, History, and Their Cars:

Looking Back at Junior Johnson



Forever immortalized by Tom Wolfe's short story "The Last American Hero is Junior Johnson. Yes!" published in his book *The Kandy-Kolored Tangerine Flake Streamline Baby*, Junior Johnson, 1931–2019, was the prototypical NASCAR hero. We're all aware NASCAR started as a place for the illegal liquor (moonshine) runners in the Southeast to compete against each other on racetracks instead of windy, dirt mountain roads. Junior began as a legit 'shine runner until "Big Bill" France convinced him to drive his 1940 Fords and other liquor cars at his events.

Junior was instantly one of the initial stars of the series, winning 50 NASCAR races in the 1950s and 1960s, and going on to run his own team with drivers including Darel Dieringer, LeeRoy Yarbrough, Cale Yarbrough, Bobby Allison, Darrell Waltrip, Neil Bonnet, Terry Labonte, Geoff Bodine, Sterling Marlin, Jimmy Spencer, and Bill Elliott, all of whom are household names today. Junior was a gentle giant that you didn't want to mess with on the track or off, and was so popular that President Ronald Reagan pardoned him for his 1956 moonshining conviction (for which he did a year in prison).

Back in 2005, HOT ROD did a story on the 'shine-running cars of Junior and his lifelong friend Willie Clay Call, and here are some excerpts. RIP, Junior, you were truly one of a kind.

—Rob Kinnan

NASCAR legend and ex-moonshiner Junior Johnson today enjoys life as a gentleman farmer on his estate in the Appalachian foothills just east of Wilkes County. In 1985, President Ronald Reagan granted Johnson a "full and unconditional pardon" for his moonshining conviction of 1956.

Most of the old moonshiners are now up there in years. Call is 65. His lifelong friend Junior Johnson is 74. They could still stir the mash if push came to shove, but making bootleg liquor is some of the hardest work a man can do. Even if the market still existed, they have long since lost the need to bother. But they did quite well for themselves in the



According to Call, the 413 in the 1961 New Yorker urged the car to 180 mph, "uphill or downhill, loaded or unloaded." Fully loaded with 25 cases of liquor weighing about 750 pounds, the car weighed close to 4,750 pounds.

From the October 2005 issue of HOT ROD:

Like old thoroughbreds in their stalls at a racing stable, the aging moonshine-hauling cars of Willie Clay Call sit at the ready in the garage next to his home in the Appalachian foothills of Wilkes County, North Carolina. Their rear suspensions are still ultra-stiff and ready to conceal the weight of more than 100 gallons of white lightning that the cars would haul out of the foothills to Winston-Salem, Lexington, or other points east.

They wait for loads that will never come from creek-side stills that no longer exist. The customers are gone, too. The moonshine culture is dead—killed not so much by the persistence of law enforcement as by the spread of legal liquor and ABC stores into previously dry Southern states and counties. The backwoods still, an American tradition that predates the founding of the United States, has all but disappeared from the ravines and hollows of the southern Appalachians.

underground business, despite the cars that were confiscated, the stills that were blown sky-high, and the pieces of their lives lost to prison terms."

The large garage behind Call's house in rural Wilkes County, the self-described moonshine capital of America, contains six 1940 Fords with flathead V8s, a 1966 Dodge Coronet 440 with a 426 Hemi, and a 1961 Chrysler New Yorker.

These are not replicas. "I used all these cars for a-haulin'," Call says. He has 14 more 1940 Fords in

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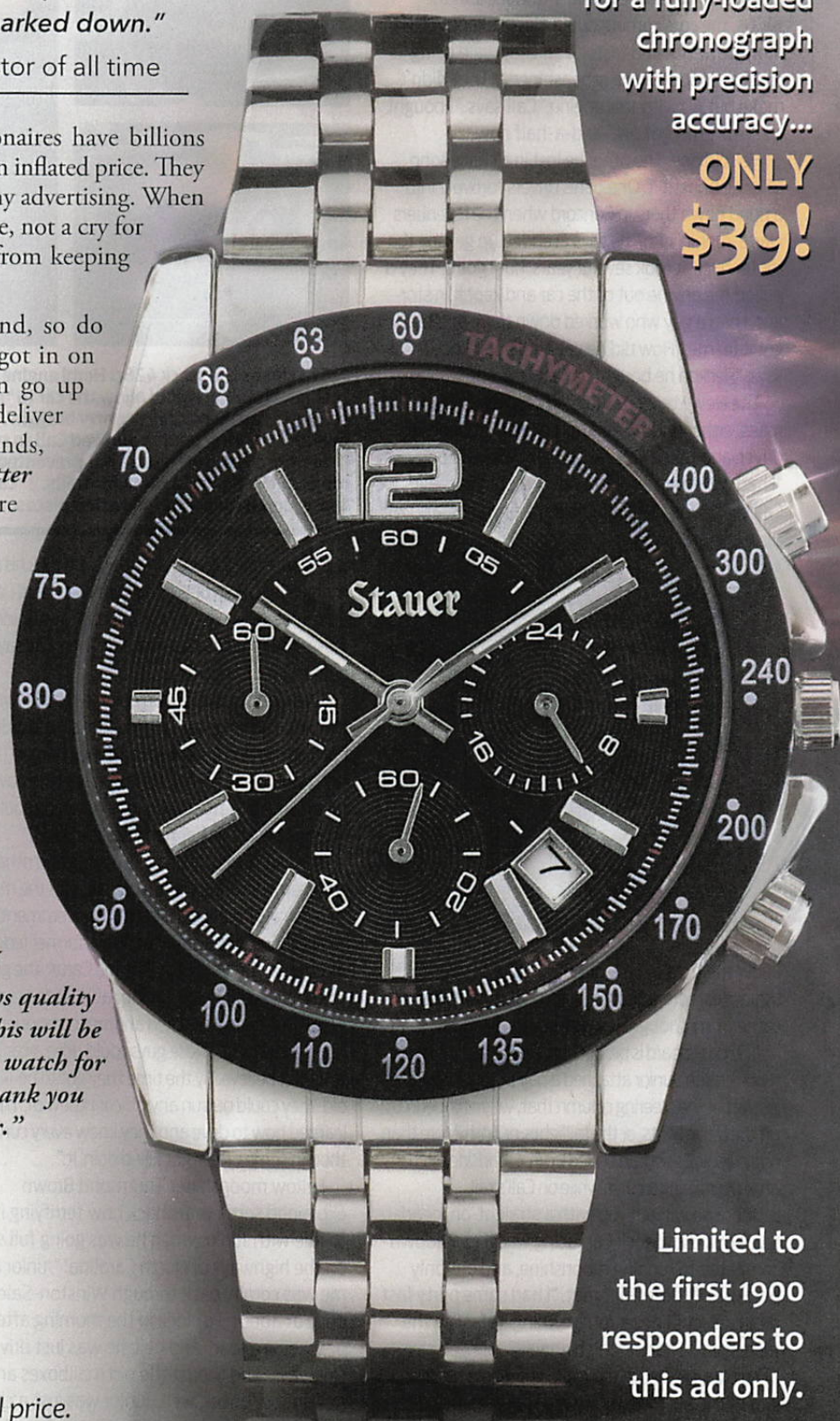
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another garage as well as other assorted vehicles. These cars were the tools of his distribution trade, and when those trading days were over, he kept the cars.

The 1966 Dodge Coronet 440 was one of three he ordered when they were introduced. In the 1960s, the cars coming out of Detroit kept getting more powerful and faster, as if they were being custom-made for the moonshiners. "They didn't make but 40 with this engine," Call says. "I bought three of 'em. I got one-and-a-half now."

He sold one. The other he lost in a chase soon after he bought it. One of his drivers "drove it into a pond down there in Concord when the revenuers was a-runnin' him," he says. "I ended up getting the motor back. It took several years, but I got it. They'd pulled the engine out of the car and kept it in storage. I had a guy who worked down there and he got it for me." How did he get it? "I don't know," Call says. "Reckon he bought it or stole it, one."

The New Yorker has logged more than 300,000 miles, either under Call's foot or that of another driver, and taken several bullet holes in its body. "I had it painted about seven or eight years ago," Call says, "and the boy called me and said, 'You

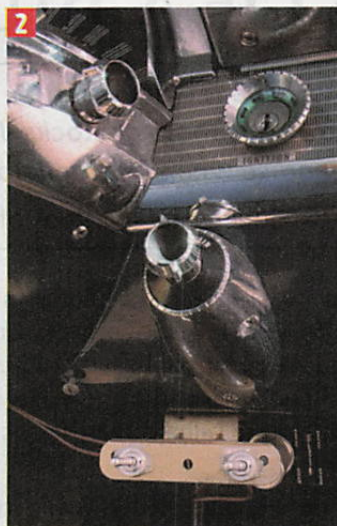
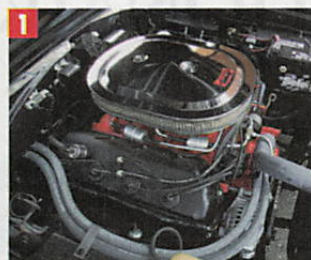


know there's a couple of bullet holes in your car?' I said, no, I sure didn't. I figured out where they came from, though. It was back in the '80s."

The dashboard is production, except for one minor modification. Junior attached a pair of toggle switches just left of the steering column that, when flipped, cut off the brake lights, or the taillights, or both. More than one pursuing lawman ended up in a roadside ditch after overdriving a curve while on Call's tail.

Johnson will tell you with a straight-on, dead-level look that Stock Car racing was a comedown compared to running moonshine, and not only because of the legal threat. "I had some purty fast race cars, but I never run anything as fast as the fastest cars I had on the highway," Johnson says. "The cars we ran on the road, you could modify 'em to the tip. Plus, they were supercharged and turbocharged. We could just do anything we wanted to 'em. There was never a time we could do anything we wanted to the race cars, even the Modifieds. NASCAR wouldn't let 'em run turbochargers or superchargers or anything like that. A supercharger or turbocharger just packs so much power in that motor, it's unbelievable. And we had no limitations on cubic inches. We could bore and stroke 'em all we wanted. We'd run 500 cubic inches a lot of the time."

Clay Call never competed in the first Stock Car



1 Call claims the stock 426ci Hemi engine in one of the three 1966 Dodge Coronets he bought new for liquor hauling would allow the car to "run 225 mile an hour off the assembly line." We don't think so, but it's authentic hill country braggin'. **2** Toggle switches installed just below the dashboard near the steering column allowed Call to switch off the brake lights but leave the taillights burning if he were chased at night. That prevented the law from seeing where he was braking on the twisty roads of the North Carolina foothills. **3** Call kept various parts for his moonshine cars, including these Mopar long rams and other pieces.

race, but one day in the early 1960s, he took his supercharged 1955 Ford out onto the track at North Wilkesboro Speedway, where Fred Lorenzen, the Golden Boy of NASCAR's early years, was practicing. Call says he outran Lorenzen lap after lap.

"We didn't back down in doing whatever we could do to make 'em faster," Johnson says. "You didn't have no top end on 'em with a supercharger. That thing would just keep gettin' up. It had the power to take it where the road was so narrow, you couldn't imagine how fast that thing was a-runnin'."

The cars driven by treasury agents and other law enforcement officers were no match for the moonshiners' cars. "I called the cars the government gave us 'mechanical miscarriages,'" says former federal Alcohol Tax Unit (ATU) agent Joe Carter, the guy who captured Johnson on foot at his father's still in 1956. "But then, we lacked another component they had—the drivers. Those guys could drive a car like you wouldn't believe. By the time they got to be 14 years old, they could outrun any officer I knew of. They learned how to drive and they knew every curve, though some of 'em got killed doin' it."

Fellow moonshiner Thurmond Brown explained some years back how terrifying it was to ride with Junior when he was going full song on the highways of North Carolina. "Junior and me was comin' back through Winston-Salem once at about 3 o'clock in the morning after unloading a load, and hell, he was just drivin' sideways. And them little old mailboxes and newspaper boxes, well, Junior was just a clip-pin' by those things right beside my face. I said, 'Junior, you're gonna have the law on you.' And it made him about half-mad, I believe. He said, 'If we can't outrun 'em empty, what the hell are we a-doin' down here loaded?'"

The old 1940 Fords, with their flathead V8 engines, dominated the moonshine scene until the 1950s. The most frequent modification the moonshiners made was to replace the flathead V8 with the biggest Cadillac engine they could find, which happened to be in the carmaker's

ambulances. Johnson and Call would haunt auctions for Cadillac ambulances, yank the engine, bore and stroke it to get all possible cubic inches, and slap a supercharger on it. As they say in Wilkes County, that old Ford would go on.

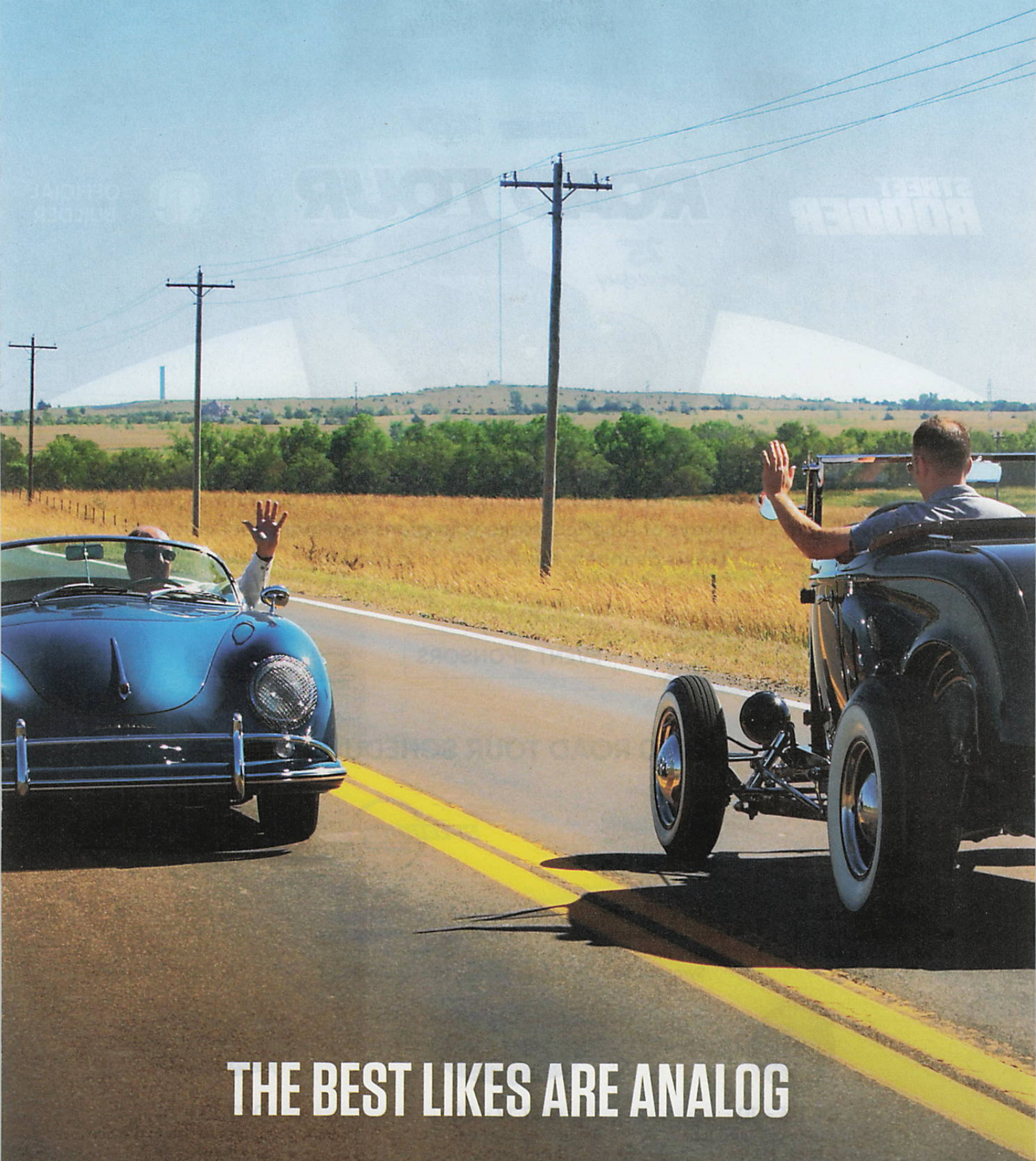
As younger men in the 1940s and 1950s, the moonshiners also tapped into the burgeoning hot rod scene in Southern California.

"We did to start with," Johnson says. "We'd buy stuff like Offenhauser and Edelbrock cylinder heads, and cranks and pistons and rods and all kinda stuff. But soon we was doin' all that ourselves. Then, when we got real strong into it [in the 1960s], California didn't have as gooda stuff as we did."

Though never caught on the road, Johnson, Call, and many other moonshiners did feel the sting of the law. In the mid-20th century, moonshining was so open in Wilkes County that the federal government built a small courthouse in North Wilkesboro, North Carolina, to handle all the criminal cases. It became something of a factory, turning bootleggers into federal prisoners by the score for failing to pay the required federal levies on liquor.

Johnson himself spent 11 months and 3 days in a federal penitentiary from 1956 to 1957, near his peak as a Stock Car racer, after his arrest at his daddy's still. He pled guilty to that one. In 1959, however, Junior was found not guilty in another case after NASCAR officials took the stand to help him prove he was racing at the time it was alleged he was making liquor. In 1960, nine months after his acquittal, Johnson won the biggest race of his career—the Daytona 500. That same year, doing well in racing and tired of being hounded, Johnson quit the moonshining business.

Both Johnson and Call have donated cars and other moonshine and racing memorabilia to a new museum scheduled to open this year in the Old Courthouse building in North Wilkesboro. "They're getting along with it pretty good," Johnson says. "It'll have the history of Wilkes County and racin' and bootlegging' and fightin' and everything else."



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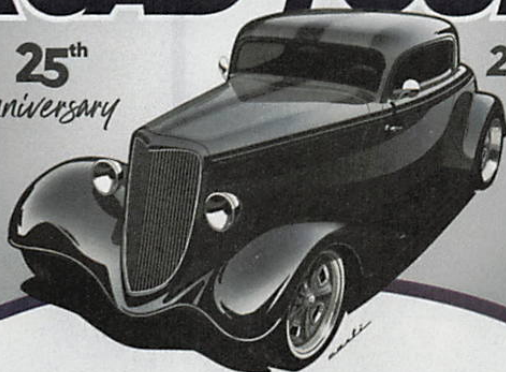
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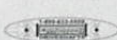
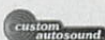


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Automotive Archaeology 1970 MUSTANG CORRALLED IN GARAGE FOR 30 YEARS

THIS MUSTANG HAS BEEN TUCKED AWAY IN THE SAME GARAGE SINCE 1983 BECAUSE OF A SMALL ACCIDENT.

This 1970 Mustang Sportsroof is one of a handful of early 1970 models with the 351 Windsor and a two-barrel carburetor under the shaker! The owner doesn't have a Marti report on it, but some research indicates that only a few hundred cars came equipped that way.

In 1983 he was involved in an accident and pushed the car into his garage—where it has sat ever since, damage and all. He did collect a new fender to replace the damaged one, but hasn't yet gotten around to mounting it. Hopefully, he can get the car cleaned up and back on the road. It doesn't look like it needs that much to get done.

► Ryan Brutt



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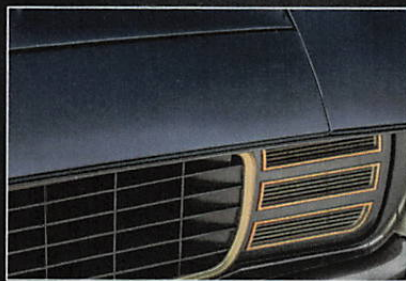
THE NOVITIATE

For a First-Time Build, This Camaro Sets a High Bar

 John McGann  Jorge Nunez

“He just wanted a nice driver, but that didn’t happen.” Obviously not. That is the reaction to anyone who hears that explanation while in the presence of the Camaro that Jesus Lopez just built. “It was supposed to be a simple build, but it escalated from there,” he offered as a way to justify how a relatively simple refresh turned into an 18-month endeavor that both exceeded the original budget, and also exceeded the expectations of Jesus and the owner of the Camaro, who is a long-time friend of the family.

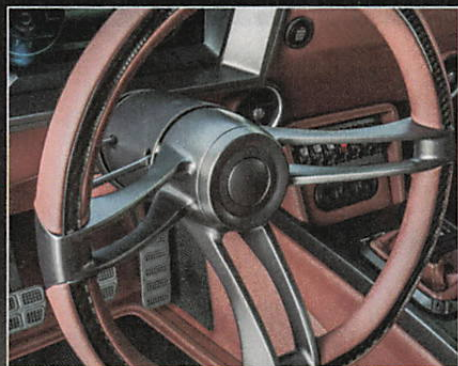
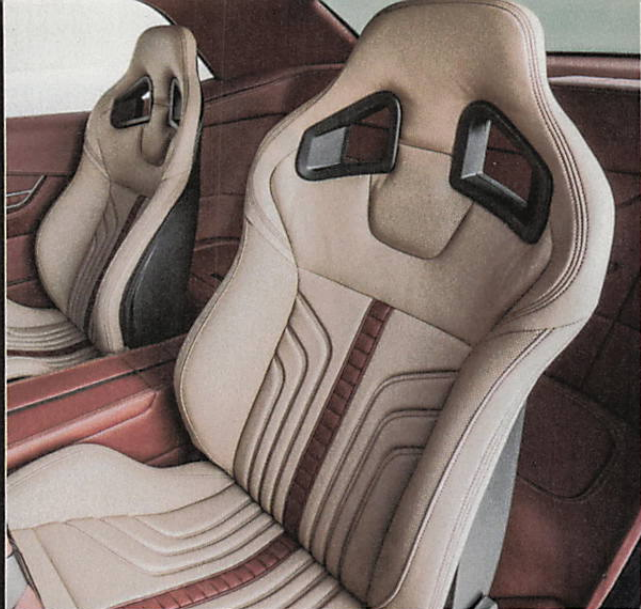




NOVITIATE

For Jesus Lopez, this is his first start-to-finish build of a car, and the first for his fledgling business, Lopez Customs. He's no stranger to the industry, however, being the son of Gabriel Lopez, owner of Gabe's Custom Interiors, the go-to interior shop for dozens of high-end show cars. He grew up in the shop, steeped in tradition, with gasoline in his veins and work ethic tighter than the stitching he and his dad lay down on a daily basis in their San Bernardino, California shop.

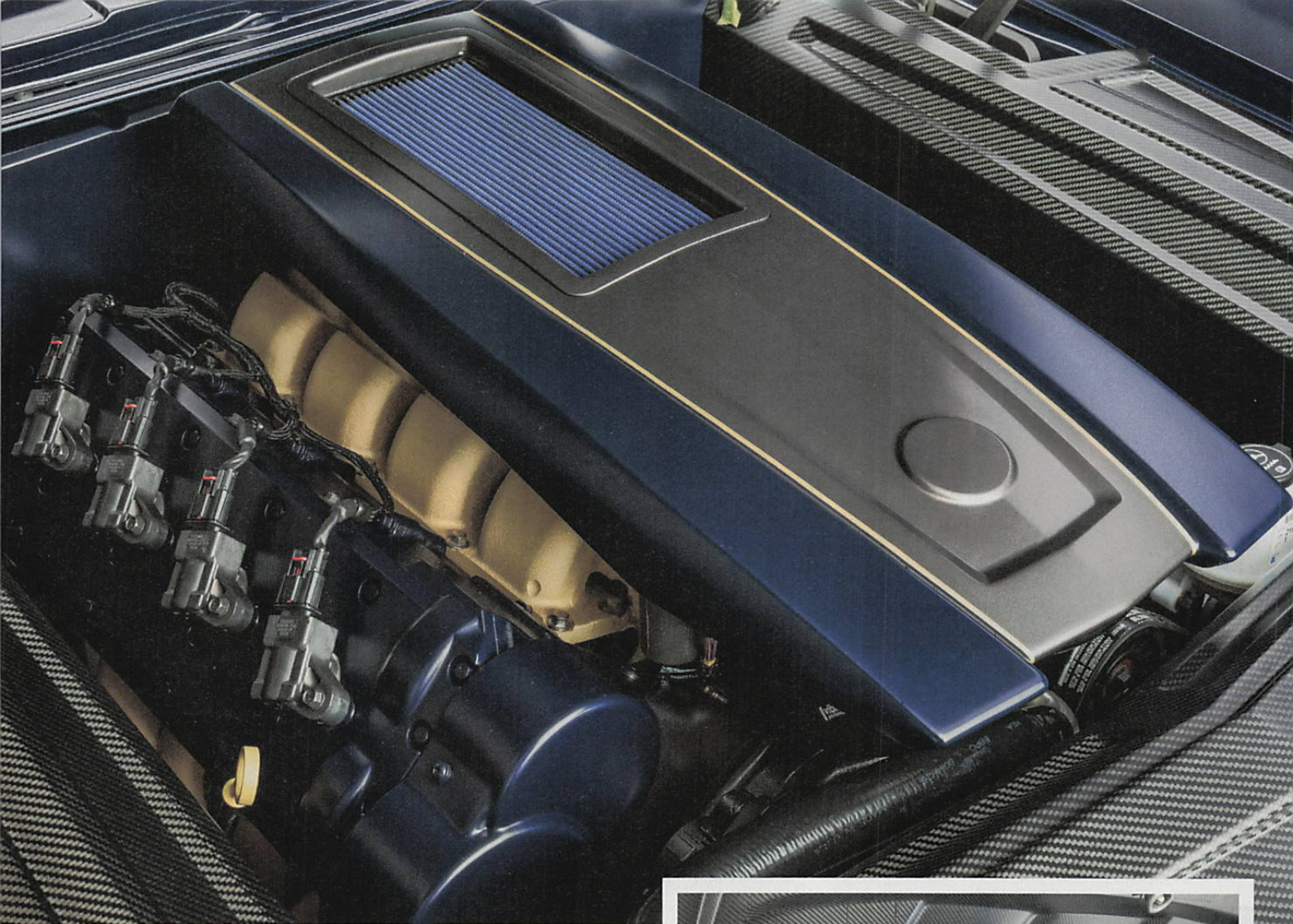
Being a young builder, it is helpful that Jesus is so well plugged in to the industry through his family's connections. Gabe's has appeared in a number of episodes of *American Hot Rod*, they do the upholstery for many of Pure Vision's car builds, and they've recently collaborated with SpeedKore, designing the interiors for their recent cars. His family's deep Rolodex helped open some powerful doors for this young builder when the scope of the build took a hard right from "nice driver".



“THE CAR’S DARK SAPPHIRE BLUE PAINT



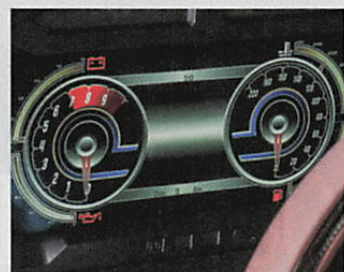
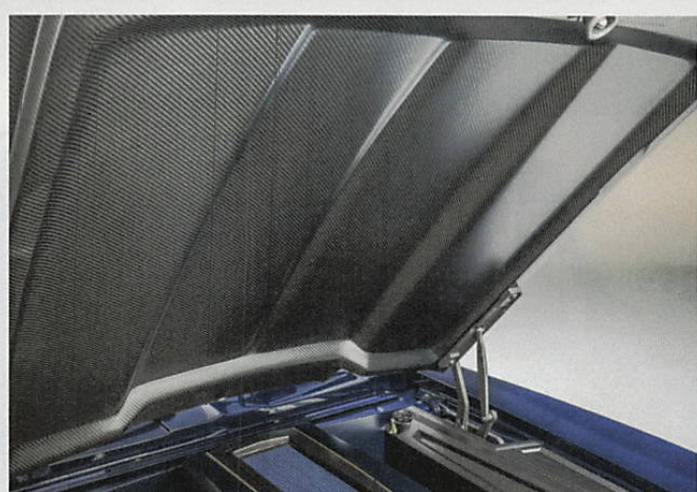
LOOKS SO DEEP YOU'LL GET LOST IN IT."



NOVITIATE

Family friend Cesar Cabral approached Jesus about building a Camaro in mid-2018. They found a decent example locally, and the original plan included an LS engine swap and similar specs to bring the 50-year-old F-car up to daily driver status. Plans deviated when Jesus floated the idea of running one of Mercury Racing's SB4 7.0 crate engines. The bench racing scenario became a reality, and once the engine was secured, the original plans went out the window when the 750 hp 8,000-rpm marvel arrived. The rest of the car was built around the engine, and soon big brakes, a strengthened T56 Magnum, and a Roadster Shop chassis were in transit to the shop. Designer Sean Smith and SpeedKore got involved early on; Sean put pen to Jesus' design thoughts, then the car took a couple of trips from SoCal to Wisconsin, where it was 3D scanned, metal finished, and painted by the crew at SpeedKore. Back in San Bernardino, California, Gabe's built a complete, one-of-a-kind interior for the Camaro, hand forming the dash out of aluminum, custom making the seats and door panels, and finishing the trunk area.

In a sea of custom show cars, this Camaro stands apart in several key areas. The Mercury Racing engine is based on a production LS7 engine, but you'd never know by looking at it. They start with a production engine block and add their proprietary dual overhead cam cylinder heads and cam drive mechanism. With an 11.7:1 compression ratio, you may want to mix some octane booster in the tank, but the payoff is 750 hp at 8,000 rpm and 545 lb-ft of torque at 6,500 rpm. The exhaust barks a wicked chop at idle, and it shrieks like a banshee at max power. You'll get sticker shock looking at the MSRP, but know that the engine is sold complete with intake, accessory drive system, and Mercury Racing's engine management system. Plus, you're buying into an exclusive club of overhead cam American V8s that don't have a blue oval on the valve covers.





The car's dark sapphire blue paint looks so deep you'll get lost in it. Under most conditions, it appears black, but in direct sunlight, or in our photo studio, you realize it's actually a beautiful shade of blue. The color is Ferrari Blu Pozzi; ask your paint shop to mix RM-BASF code 718155 if you want some yourself. SpeedKore did exemplary work massaging the sheetmetal, matching the carbon body panels, applying the paint, and making Sean Smith's exterior design a reality. The contrasting gold accents and clear-coated carbon fiber give your eyes that much more to linger over.

Jesus is especially proud of the interior, created by Sean Smith and executed by his family's business, Gabe's Custom Interiors. Sumptuous leather envelops a hand-formed aluminum dash, and the seats, door panels, and rear compartment covers are bespoke as well. The duo incorporated an interesting mix of street rodder aesthetic with exotic Lamborghini switchgear, Ferrari vents, and Tesla door handles. Continental Automotive built the custom gauge panel, and the steering wheel is billet aluminum wrapped in leather and carbon fiber. Jesus estimates there are about 600 hours of work in the interior alone.

Other noteworthy details include the HRE wheels over massive Baer brakes. The car rolls on a Roadster Shop Chassis with a Bowler-built T56 and Ford 9-inch rear backing up that exotic engine, and the undercarriage is as flawless as the exterior.

In all, the car was built over a span of 18 months, with Jesus and a few helpers working mostly on the weekends, and like most SEMA-show builds, Jesus and his crew were putting in long hours to complete it on time. They succeeded, of course, and the car was on display in the Jet Performance booth at the 2019 SEMA show. For a first-time build, Jesus can be proud. To say the work is impressive for this freshman builder would be an understatement. Since completion, the car has been invited to display at the SEMA Show and most recently, the Grand National Roadster Show in Pomona, California, and Jesus is already filling up a trophy shelf of awards for his efforts. 

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This Ultra-Rare Essex Terraplane Stands Out in a Crowd

Richard Prince  

With strong influence from his father, who was the service manager at their local Chevrolet dealer, Dickie Lowder began messing around with cool cars when he was only 14 years old. He started with a 1955 Chevy, and over the decades has built dozens of street rods, hot rods, and race cars. Though steered toward Chevrolet early on, he was equally attracted to Chevy's perennial cross-town rival, in part because of his long career as service manager at a Ford dealership.

Around 40 years ago, after completing several 1955 Chevys and 1932 Fords, Dickie began looking for a car he lusted after for a long time, but never happened to cross paths with—a solid '33 or '34 Ford coupe.

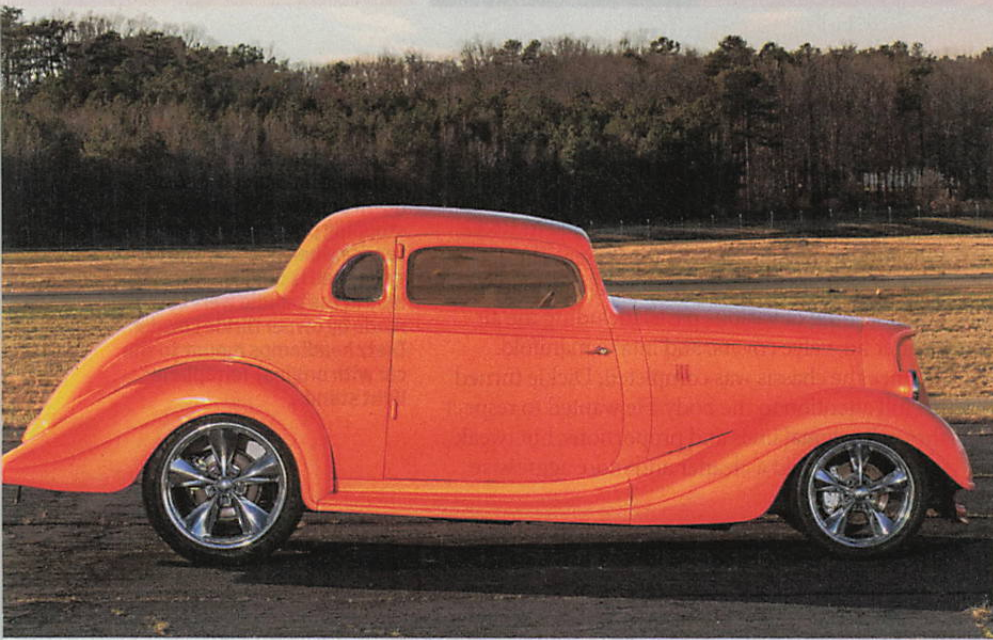
"I got the word out that I wanted a '33 or '34 coupe," he recalls, "and one day in 1980, a guy came into the dealership and told me he had a 1933 Essex Terraplane coupe at his body shop. Without knowing what an Essex Terraplane coupe was, I followed him to his shop in Page-land, South Carolina, to look at it."

The Terraplane was completely disassembled and piled up in a corner of the shop, making it somewhat difficult to evaluate. Dickie saw enough of the body, however, to envision its potential. "I could see the car's lines and liked its proportions and the way it flowed. It was complete except for the grill, garnish moldings, and panel between the rear fenders, and the metal was in excellent condition."

Never one to shy away from a challenge, Dickie made an offer the shop owner

Essex Terraplanes set a plethora of speed records after the nameplate's 1932 debut, including a record run up Pikes Peak in the fall of '32. Weight varied by model, but on average Terraplanes weighed a little more than 2,200 pounds. In 1932 the standard inline-six made 70 hp. An optional 4.0-liter inline-eight that produced 94 hp was offered in 1933, giving a Terraplane so-equipped one of the highest power-to-weight ratios of any car in production at that time.



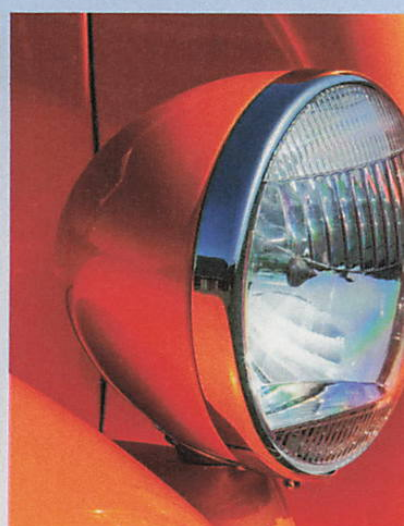
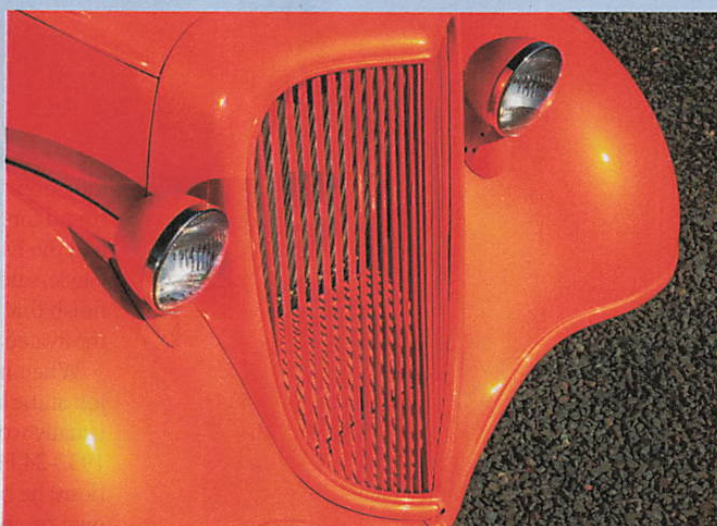
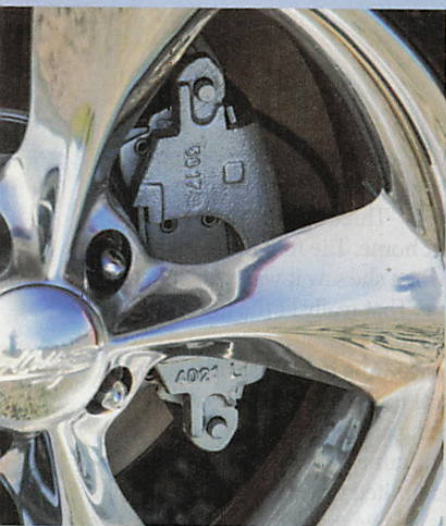


accepted: \$1,500 cash and a 1936 DeSoto four-door sedan that he'd bought from a friend for \$150. "Three truckloads later, I had the Essex home. The first thing my wife, Gayle, said when she saw it was, 'you'll never finish that car.' That really lit the fire and motivated me to get it done!"

When not working his service manager job at the local Ford dealer, Dickie was usually working at his second job building 1932-34 Ford frames for Fat Man Fabrications; he had limited time to spend on his own projects, but he made the most of it. The first thing he tackled was the chassis. The car was almost entirely stock when he bought it, but a well-known local drag car builder named Don Duncan had done some work to reinforce the original chassis and made a custom ladder bar setup for the rear. Dickie continued what Don started, boxing the rails and fabricating new crossmembers to accept the drivetrain and a Fat Man Fabrications Mustang II front suspension system. Two-inch-drop Mustang II spindles, stock Ford coil springs, and Ridetech shocks up front give the right look and a comfortable ride; while coil springs, Ridetech shocks, and a custom Panhard bar do the same in the rear. Ford Motorsports 11-inch disc brakes at all four corners scrub off speed. To finish the chassis, Kumho Ecsta ASX tires sized at P215/40R-17 in front and P245/45-20 at the rear, mount on 17x8 front and 20x10 rear Boyd Coddington Junkyard Dog wheels.

The Essex Terraplane was a low-price offering from Hudson. With all body styles combined, more than 37,000 were sold in 1933, but very few survive to this day.





ESSEX

In keeping with his old-school roots and the desire to have an easygoing, ultra-reliable cruiser, Dickie put together a simple power package.

"I built a 400 cid small-block with stock heads, forged GM rods and crank, Keith Black pistons, Comp Cams hydraulic camshaft, and Edelbrock 650 cfm carb on a polished GM aluminum intake. The Chevy distributor works with a Pertronix electronic module and coil, and MSD wires. Ceramic-coated Sanderson headers, 2 1/2-inch pipes, and Turbo mufflers take care of the exhaust. David Thomas built a Turbo 400 trans-

mission for me, and I rebuilt a 1957 Ford 9-inch rearend to go with a housing narrowed 2 inches by Phil Clayton."

To dress up the engine, Dickie turned to R&D Finishing in Elizabethtown, Tennessee. The craftsmen there took care of the chrome plating and polishing of various parts, including the air cleaner lid, valve covers, and intake manifold.

Once the chassis was completed, Dickie turned his full attention to the body. He wanted to respect the car's original lines and proportions, but tweak it enough to yield a cleaner and more aggressive

Off-the-shelf Ford Motorsport disc brakes do a great job with no drama, keeping the cost down and providing reliable stopping power and easy service when needed. The car's grille shell is original, but the bars in the middle were custom made by owner Dickie Lowder. Dietz headlamps mount to the car with original Terraplane light stands.



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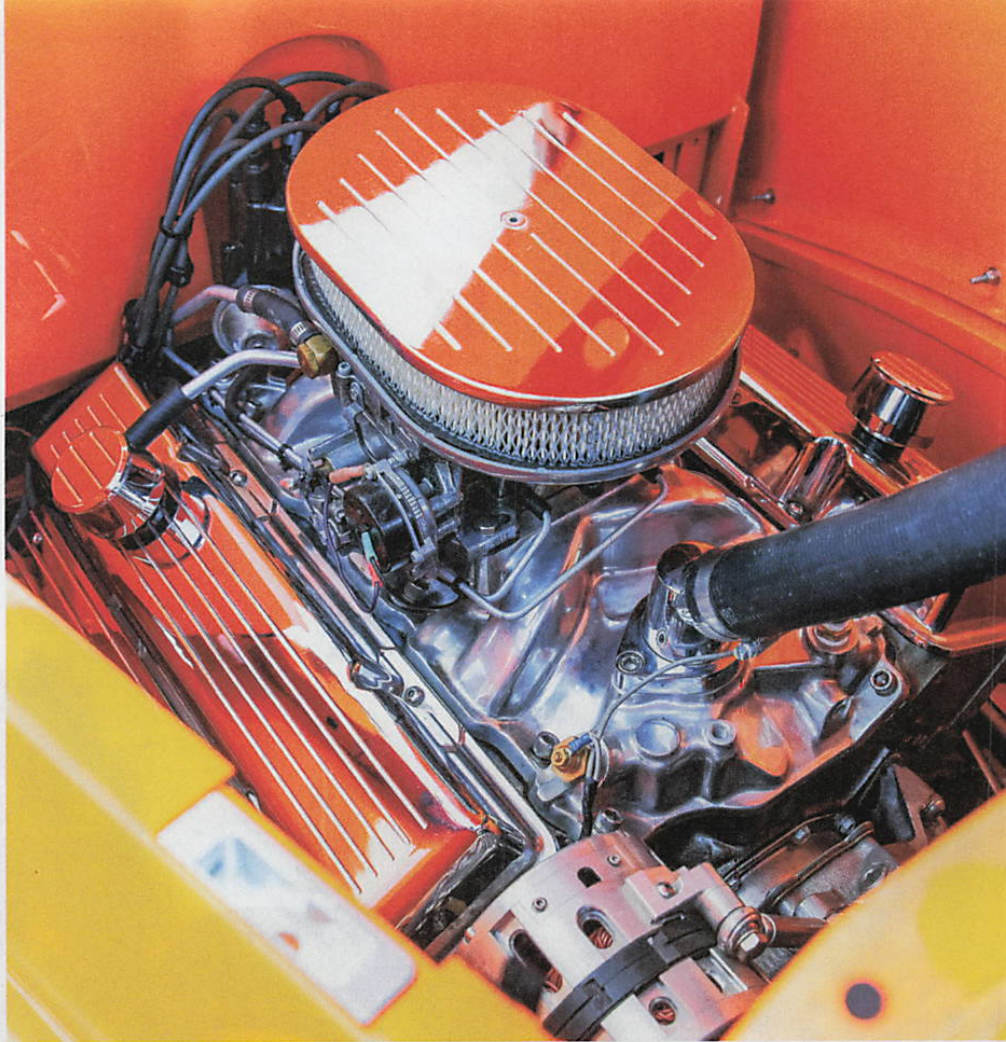
Dramatization. Always wear protective eyewear.

ESSEX

design. To that end, he chopped the top 3 inches in the rear and 3 ½ inches in the front and filled the trunk latch hole. He also fabricated new bars for the grille, but left the rest of the body, including the factory four-section hood, in original condition.

Fortunately, the Southern climate was gentle on the Terraplane's steel, so no rust repair was required. Following completion of the wanted modifications, Dickie did the finish bodywork, final paint prep, and then sprayed the car a powerful shade of Corvette red.

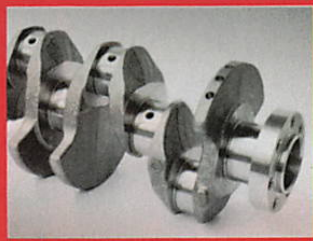
Dickie retained the basic layout of the car's original interior, but finished it with custom trim and materials, using tan velour for the seat covers, headliner, and door panels. Though he retained the original instrument cluster, the Terraplane's factory steering column and wheel gave way to an Ididit steering column and custom-made steering wheel designed to match the wheels. Phil Clayton made a trick support for the column from an aluminum connecting rod, and Walter Furr made garnish moldings from walnut. The car was done and ready to hit the road in April 1982, exactly 2 years and 1 month after the build began. Over the next 25 years, Dickie and Gayle drove and showed their ultra-rare Terraplane



Dickie and Gayle Lowder love driving their Terraplane to cruises and shows all over the Southeast, and have added more than 35,000 miles to its odometer since getting the car back on the road in 1982.



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extensively, and loved every moment of it. The car was featured in *Rodder's Digest* in January 1987, and that was something of a high point for the do-it-yourselfer.

"I was able to show the magazine story to my dad, who was my hero," Dickie explains. "Sadly, he passed away on February 6, 1987, so I was glad he got to see the article. He loved it and I got his pat on the back!"

Following more than a quarter century of use and traveling some 35,000 miles, Dickie's Terraplane was getting a little tired in areas, so in March 2007, 27 years after he first began working on it, the native North Carolinian took it completely apart and started the second build.

One of his primary goals was to simplify the body surfaces and accentuate its sexy curves. In pursuit of that, he modified the original four-section hood by welding the two top sections together and finishing the seam to provide a perfectly smooth surface that matches the roof and trunk lid. He also made new hood sides to replace the originals, which had four large louvers each. The smooth sides match the clean look of the doors and rear body panels. Three small louvers were added on the sides to provide a subtle accent and ventilate the underhood air. Rather than opening accordion style as originally designed, the revised hood uses fixed sides with a

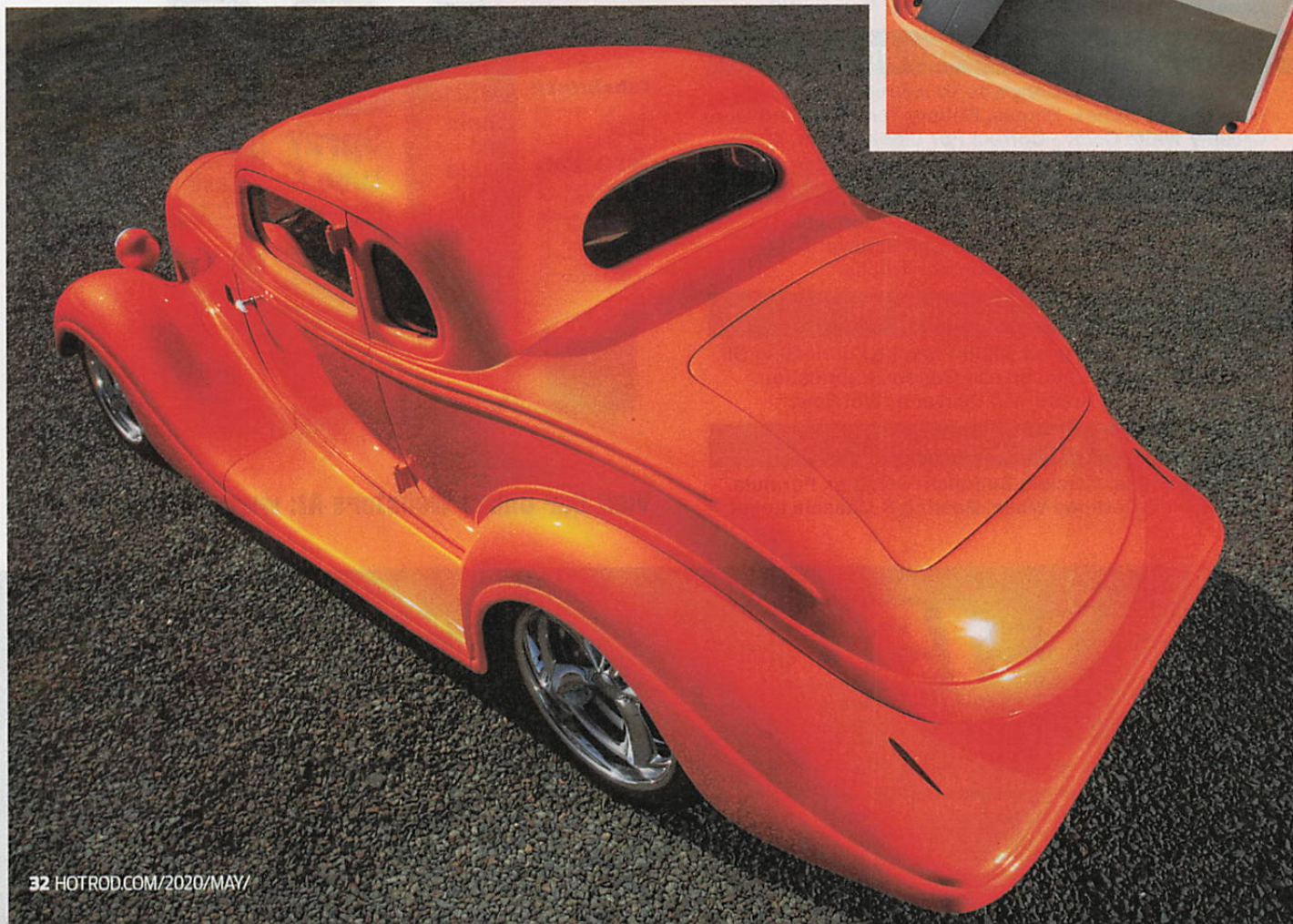
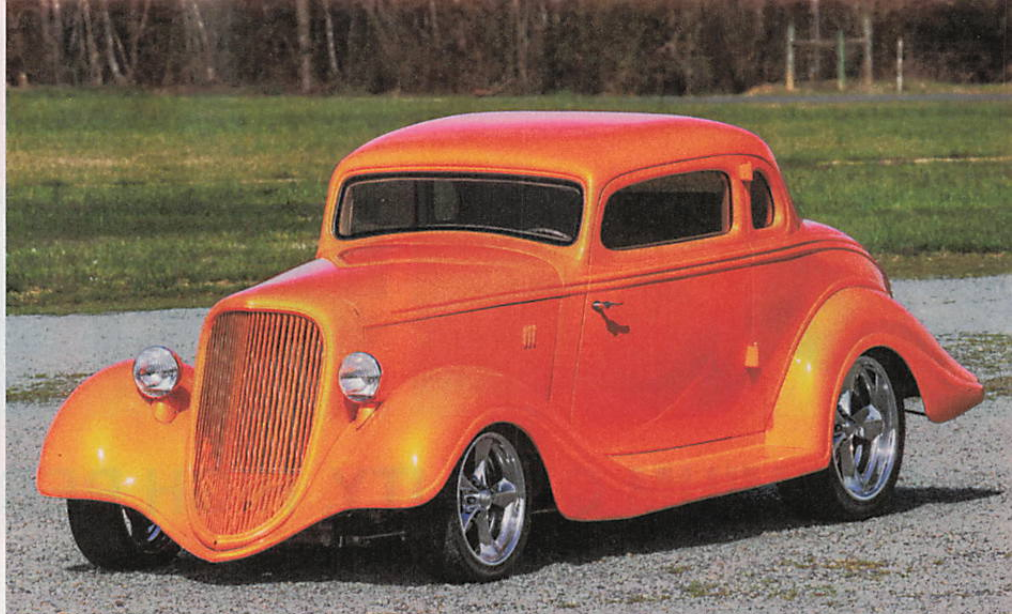
top that pivots open from either side, courtesy of a Hagan Street Rods hood kit.

Master metalworker Dan Carpenter helped with the fabrication of a new section to go beneath the trunk and between the fenders. "I wanted to eliminate the seam where the fenders met the middle panel," Dickie tells us, "but the hard part was putting the roll into the panel so it matched the fenders exactly. Dan was a big help with that."

Final bodywork was done by David Chandler and Bill Lowder. Fat Cat Customs, in Albemarle, North Carolina, laid down the mega-radiant House of Kolor Tangelo Pearl paint. They sprayed the same hue on the dash and steering column to help unify the interior with the exterior.

The custom upholstery and wood trim, done during the car's first go-around, were

The two top sections of this Terraplane's original hood were welded together to create a smoother look to match the hood and trunk. The original windshield frame was eliminated and, with help from an S10 Chevy surround, the windshield was set directly into the body opening. Despite decades of experience building custom cars, Dickie Lowder had never chopped a top before doing this one. He lowered it 3 inches at the rear and 3.5 inches in front to add a slight rake. This Terraplane's body is all steel and mostly original. A custom-made panel joins the rear fenders, providing a clean sweep from one side of the car to the other.



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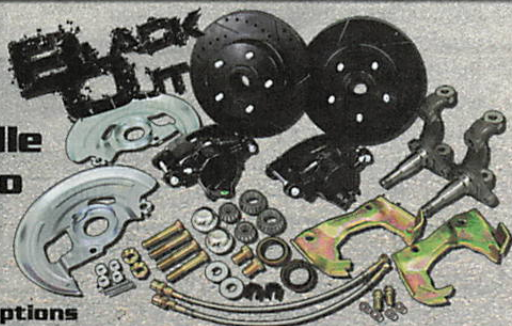


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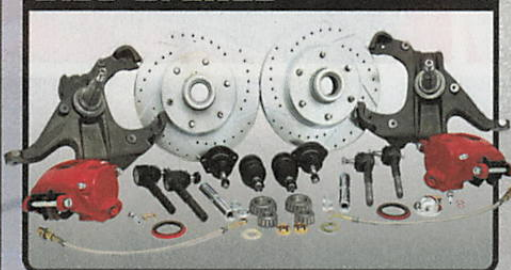
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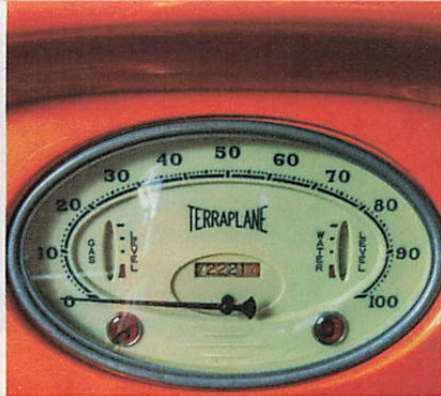


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looking somewhat dated in places and the tan color didn't go well with Tangelo Pearl, so Dickie had a completely new interior done by Elbert Ebird at Country Classic Interiors in China Grove, North Carolina. A Teas Design seat was upholstered in sand-colored vinyl. He also made a headliner, center console, door panels, and window-surround trim to match. Though the Terraplane's original instrument cluster was retained, Classic Instruments gauges hidden beneath a cover on the custom center console help keep track of all vital signs. The center console also houses a Custom Auto-sound stereo with a remote CD changer.

Since completing the second build of their rare Terraplane, Dickie and Gayle have added another 10,000 miles to its total. "We've driven this car more than any other one we own," he tells us. "It's comfortable, it drives beautifully, and no matter where we take it, it stands out from the crowd and we can be pretty sure we won't see another one!" 



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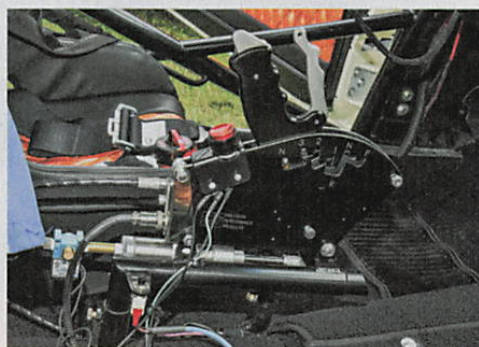
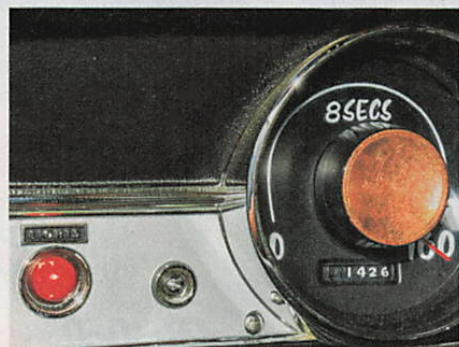
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Paint on the roof is a lost art, but Travis Hess is bringing it back. The car was painted at Bucky's shop, Bucky's Ltd. Auto Body in Martinsburg, West Virginia. Genius body man John Shank got the car straight, and Bucky's son Travis did the rest.





TRIPPY FISHY

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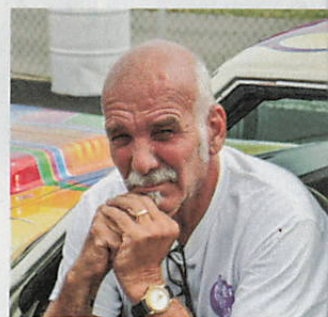


Arvid Svendsen

In 1968, Chrysler commissioned Hurst Performance to build about 50 1968 "BO29" Plymouth Barracudas and 50 1968 "LO23" Dodge Darts powered by the 426 Hemi engine. These purpose-built A-Body Mopars were intended to compete in Super Stock drag racing, and featured lightweight seats, fiberglass body components, a large hood scoop, lightweight side glass, and no sound deadener. According to Mopar expert Jim Kramer, Chrysler ended up building 72 BO29 Barracudas and 83 LO23 Darts between February and May 1968.

Those 155 Hemi cars were instantly all the rage in 1968 Super Stock drag racing competition, and their popularity has continued to grow at the racetrack over their 52-year run. NHRA has designated the SS/AH class as the home for all Super Stock '68 Hemi Barracudas and Darts. Of course, the real-deal BO29 and LO23 cars are too valuable to race, so most of today's SS/AH cars are clones.

The present-day premiere event for SS/AH class is the Dodge Hemi Challenge at the U.S. Nationals in Indianapolis, at Lucas Oil Raceway, prior to and during Labor Day weekend. A total of 27 SS/AH cars were assembled in 2018 for the 50th Anniversary celebration of the Hemi A-Body cars. Bucky Hess was in



Over his 30 years of NHRA drag racing, Bucky has been NHRA World Record holder nine times.



TRIPPY FISHY

attendance with his new ride, "Psycho Kuda". Psycho was packing a potent 426 Hemi built by three-time NHRA World Champion Pro Stock driver Jason Line, a state-of-the-art SS/AH chassis built by Phil Mandella at PMR Race Cars, and a spectacular '70s style paintjob by Bucky's son, Travis "Tuki" Hess. Unfortunately, Bucky lost in the third round in 2018. He actually began speaking to humans a scant two weeks later.

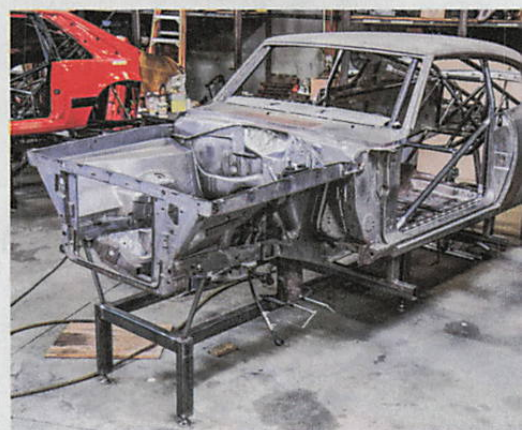
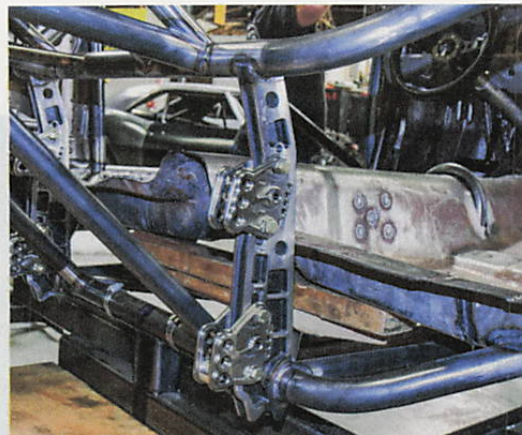
The Psycho Kuda arrived at the 2019 Dodge Hemi Challenge at Indy stronger and more prepared for battle. But again, problems persisted. Lazy 60-foot times and other problems hindered his effort, resulting in another third-round loss. Knowing that Bucky was still intent on winning, Jason offered to take the Psycho Kuda down to KB Racing for intense testing, flogging, and research in order to make the car more competitive.

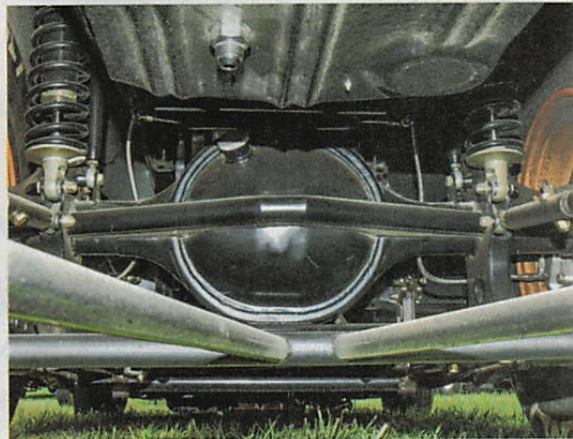
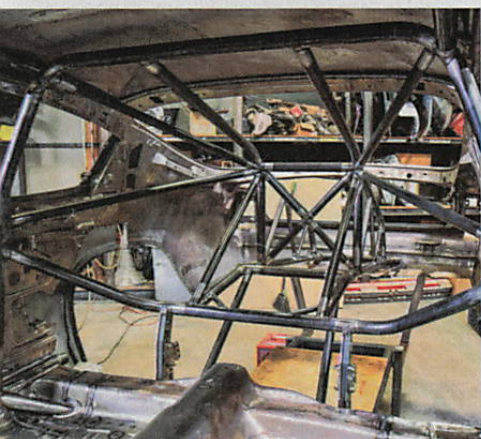
Bucky quickly took hold of Jason's plan, "I was thrilled when Jason and the guys at KB Racing offered to take the car for testing. The car is getting 'Pro-Stocked'. When the 60-foot times are where they need to be, I see it gaining at least 2 mph."

The Jerry Bickel four-link chassis brackets with Lamb Components bars offer an incredible amount of adjustability for launch and high-speed handling. The car is also capable of ride height adjustments to tune for track conditions and drivetrain variables.

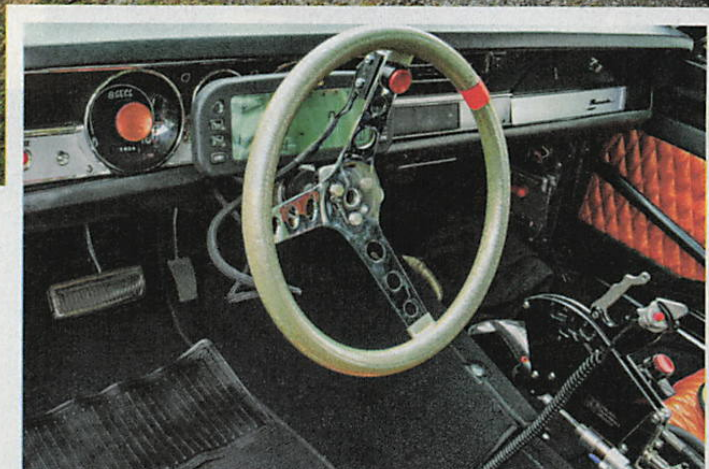
A conversation with Jason Line describes the off-season development program for the 2020 season for Bucky's Psycho Kuda. There is an excitement in Jason's voice in anticipation of the task before him, "We are going to be tailoring the engine to the car. The engine is making decent power, but we are not quite using all of it. I cannot predict a win, but we want to go to Indy next year and be able to run as fast, or faster, than the best cars entered."

Jason was willing to give limited information about the Hemi engine in Psycho Kuda, "It is a Chrysler 426 Hemi iron block. It has a Sonny Bryant forged crankshaft, Carrillo connecting rods, and Diamond pistons. We work on the ring package constantly. Right now, the ring package is a conventional race-piston ring package from Total Seal. Jesel is responsible for the entire valvetrain that allows builders to straighten out the pushrod





Many Super Stock racers build their cars for crowd-pleasing wheelstands. PMR has successfully built SS/AH cars that simply hook and go straight ahead. The Psycho Kuda is powered by a Jason Line 426 Hemi engine mated to a Pro Trans three-speed automatic transmission with shift points approaching 10,000 rpm.



The cabin is equipped with Racepak Data Systems instrumentation and data-logging equipment. The Kirkey Seats were upholstered at Excellence Upholstery in Martinsburg, West Virginia.

THE SPECS:

Car: 1968 Hemi Barracuda
"Psycho Kuda" SS/AH
Owner: Bucky Hess, Bunker Hill, West Virginia
Engine: SS/AH-legal 426 Hemi built by Jason Line and KB Racing
Chassis: PMR Race Cars
Color: "All of them" by Travis "Tuki" Hess and John Shank at Bucky's Ltd.
Interior: Mark Poffinberger at Upholstery Excellence, Martinsburg, West Virginia
Transmission: Pro Trans three-speed automatic
Rear Differential: Mark Williams 9-inch with 40-spline axles and aluminum spool
Wheels: Weld American Racing Torq Thrust Pro 15x4 front, 15x14 rears
Front Tires: Mickey Thompson M/T 28.0/4.5 ET Front
Rear Tires: Mickey Thompson M/T 31.25/12.2R15W Pro Drag Radial

TRIPPY FISHY

angle for optimum power and reliability."

In the best way possible, Jason makes it clear that there are some items that cannot be revealed, "But that's the fun of Stock and Super Stock racing. As a performance class, there is always a certain gamesmanship that motivates a degree of secrecy in advancements made in a particular combination. That just makes it fun. So of course, the camshaft and cam specs (laughter) are confidential . . . but I will say that it is a vendor we use for our Pro Stock cars. KB Racing prepped the cylinder heads that includes PSI valvesprings and Manley stainless steel valves. The beautiful billet aluminum intake manifold is a KB Racing piece, and I like to tune and tweak the twin Holley carburetors."

Jason suggests that there could be a few major changes in the car, as he explains, "At this time, Bucky footbrakes the car at launch. We might try a transbrake to see if it

helps our 60-foot times. Everything is going to be evaluated in an attempt to get as much out of the car as possible. The only thing that will not be scrutinized is the paint, which is absolutely perfect."

The foundation for Psycho Kuda is a chassis built by Phil Mandella and his crew at PMR Race Cars. In Bucky's words, "... the best race car I've ever driven. It's a great chassis that incorporates Pro Stock innovation in safety, performance, and accessibility."

Describing Psycho Kuda, Phil Mandella explained, "Bucky's '68 Barracuda is a Super Stock-legal car that employs the factory front torsion bar suspension. The rear of the car runs a 4130 Chromoly round tube chassis built to a 25.5 SFI specs. Penske double adjustable shocks are installed in the front, with Penske coilovers used in the rear. All of the suspension components, steering linkages, plumbing, and wiring are prepared by PMR. The steering box is an OEM piece

rebuilt and tweaked by Firm Feel."

Adjustability and accessibility are vital for a good race car, as Phil explains, "The car is built so that most components can be easily accessible. It comes with a two-piece transmission tunnel for servicing. The chassis tuning options are similar to most of the Pro Stock cars out there. I expect Jason and guys at KB Racing will be able to dial it properly."

Bucky doesn't like anything short of winning, and is amazingly optimistic, "Once we get our 60-foot times figured out, we will have the potential to win against any Hemi car in the country. I just have to do my job driving the car right. 



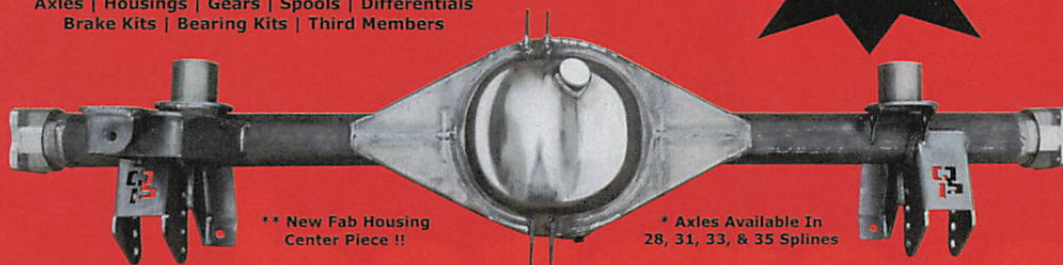
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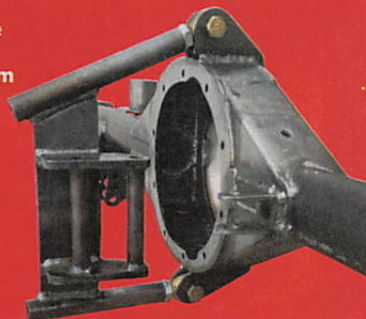
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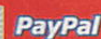
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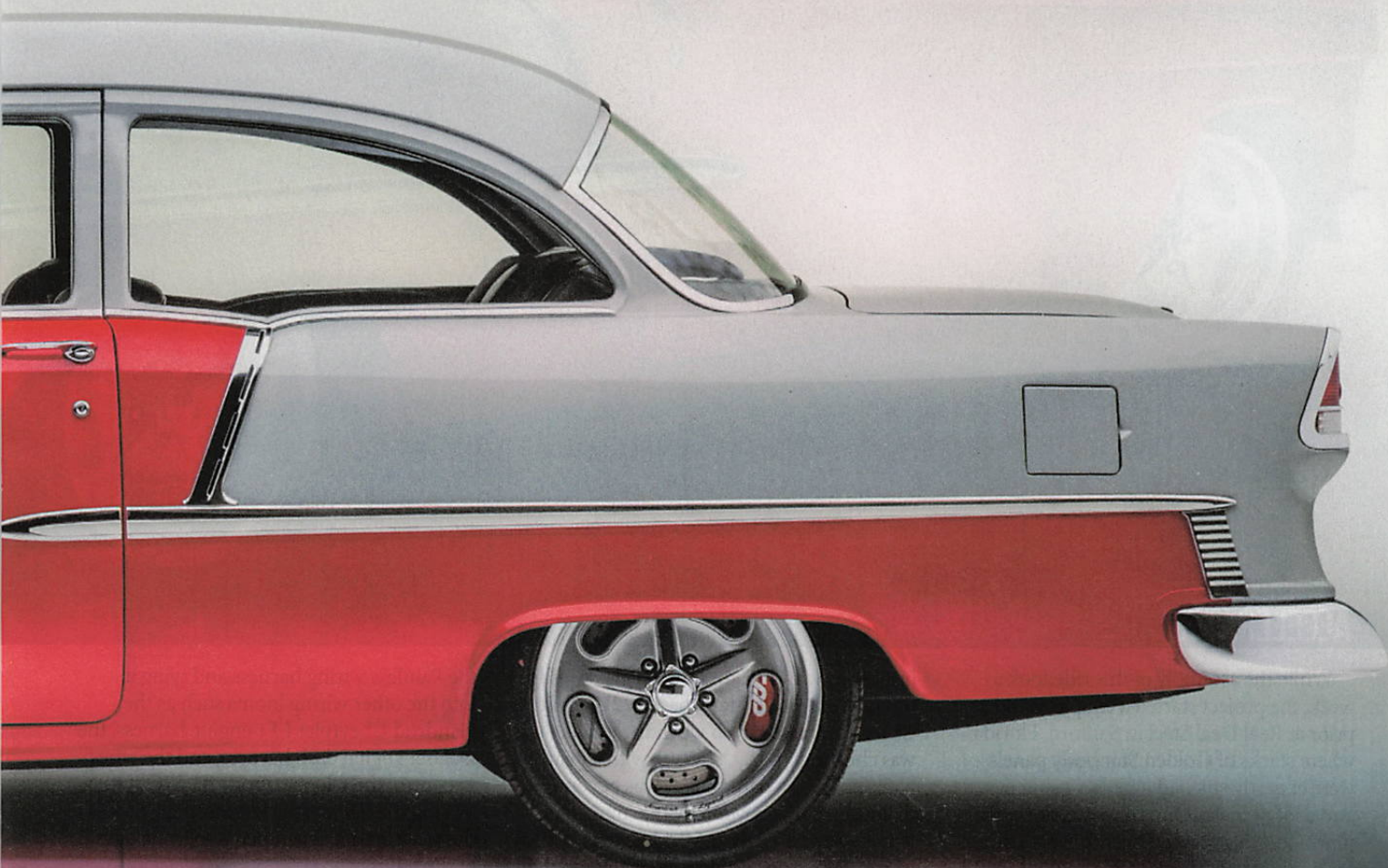
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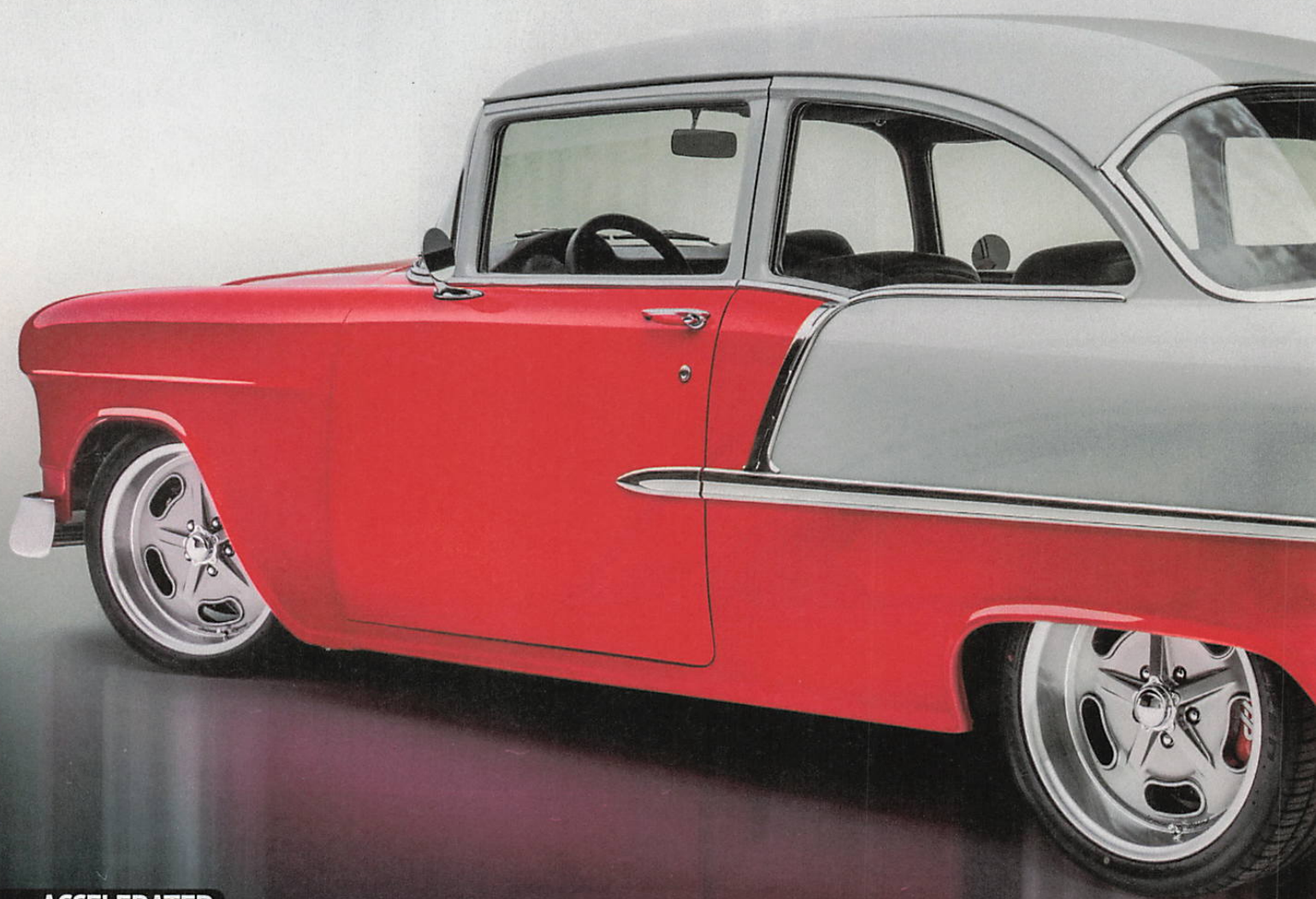
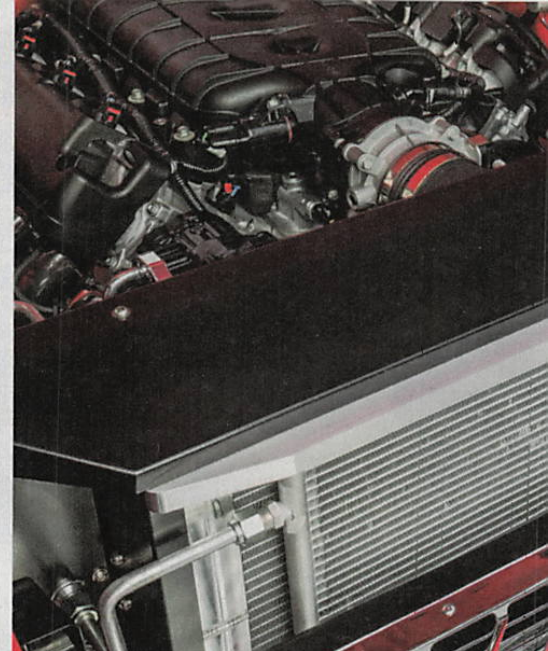
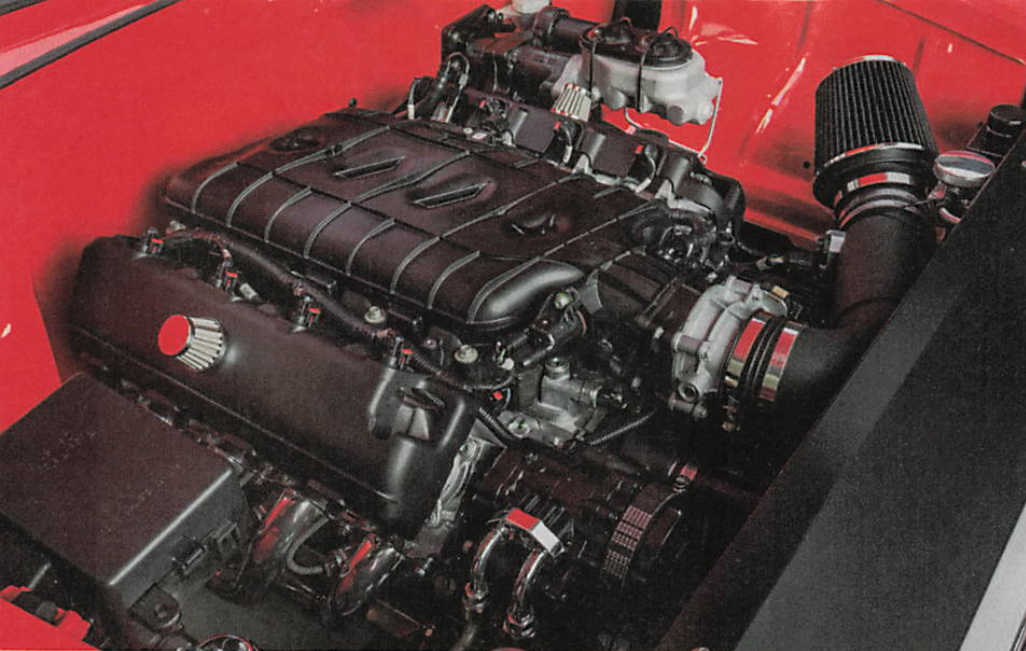
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ALL MODERN PARTS IN JUST SEVEN DAYS!

 Steven Rupp  Jorge Nunez

Every time we do one of these Week to Wicked builds we learn a ton and opt to up the difficulty factor the next time around. Well, this CPP Week to Wicked build of a 1955 Chevy, is going to be a tough one to top. First off, there isn't a single part on this '55 that is more than one year old. The whole deal, from the Golden Star Classic sheetmetal to the CPP chassis, is brand spankin' new. Finding a starter car has become increasingly tough, so the aftermarket said the equivalent of "Hold my beer!" and created every piece and part necessary to build your favorite Tri-Five.







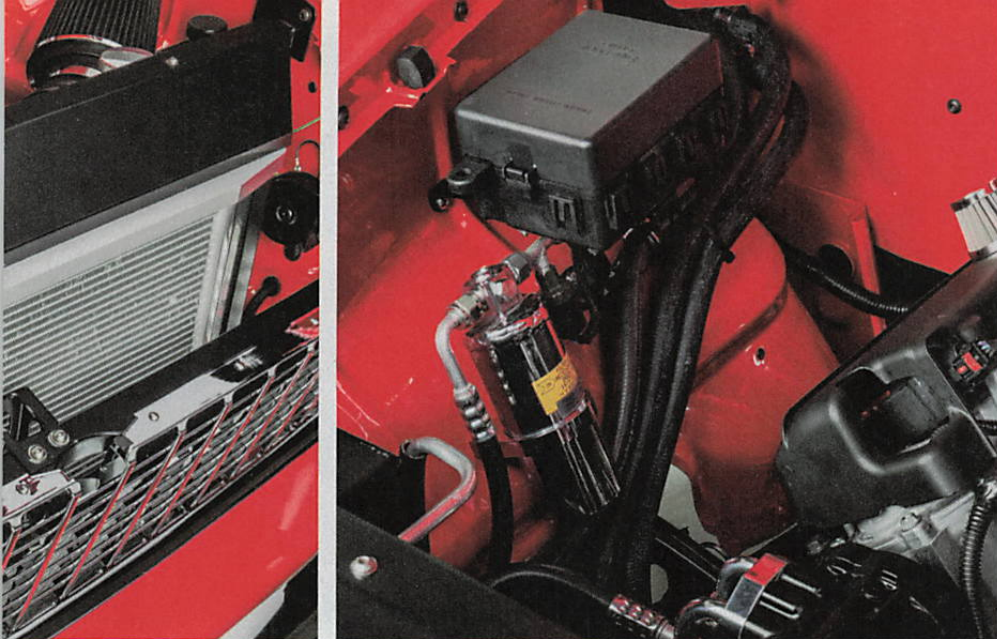
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While the assembly of this ride took a week, the project started a couple months prior at Real Deal Steel in Sanford, Florida, where stacks of Golden Star body panels were expertly stitched together using jigs and a lot of math. Once that was done, the new body was shipped over to AA Customs for bodywork and paint. The painted shell then found its way to sunny California where CPP installed some of the Danchuk

bright work and made sure the glass was in place. We typically start these W2W projects with a complete car, so we didn't feel like this was cheating. In fact, starting with a nearly bare shell and a bare chassis was beyond daunting. Still, on Monday morning, the teams swarmed over the '55 like ants at a picnic. While one group was bolting on the CPP suspension and brake components, another was starting the task of installing

the Painless wiring harness and tying it into the other wiring looms such as the Gandrud Chevrolet LT1 engine harness, the Dakota Digital dash harness, and the wires to control the Old Air Products A/C system. Wiring the '55 was the largest single task of the week, and it consumed a solid six days of the build.

Now you might look at this ride and think we cheated a bit and got the car to a "Well, it



looks done!" status, but that wasn't the case. The build was done as if the '55 was going on a long road trip on the eighth day. The A/C system was charged, a basic alignment was done, and everything, including the Custom Autosound audio system, was up and running.

This build also included quite a few firsts for us. It was the first build we've done using a Gandrud Chevrolet supplied LT1 crate

engine. Until now, all of our builds have been automatics, but Bowler Performance hooked us up with a sweet Tremec Magnum six-speed manual and all the fixin's to make it work. This was our first build with power windows, even the TMI seats were power. It was also the first build with a complete A/C system, the first with a full interior, and the list goes on. To be honest, we typically skip the parking brake on most builds, but this



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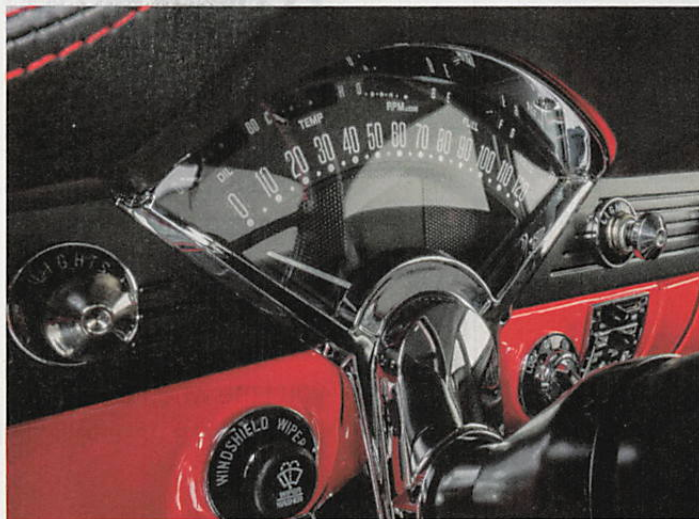
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one has a slick system from E-Stopp. Ambitious? Damn skippy, but we think the final result more than makes up for the migraines suffered during those long seven days.

Building a car like this in seven days is an exercise in project management. The team from CPP worked with Jason Scudellari and our *MotorTrend* team to assemble the car while staying out of each other's way. For example, the interior bits such as the Dakota Digital dash, CPP tilt column and the wiring had to be finished before TMI could install their plush interior. The sweet core support and radiator system from Dean's Hot Rods had to be assembled and ready so the Old

Air Products A/C system could be finished and charged, but that meant the LT1 had to be in place. There were a ton of puzzle pieces, and many of them had to go together in a specific order.

By day five, we were ready to install the Falken-wrapped American Legend wheels, but we hadn't even bumped the LT1 over yet. Then again, we still had lots of little things to knock out such as installing the United Pacific LED lighting system and bleeding the CPP HydraStop big-brake system. Like all our builds, it's the little things that get us, and this '55 was no exception, but the sleep deprived team kept



at it and the punch list of things-to-do kept getting shorter. By late Saturday, the LT1 fired up and sounded great through the Pypes exhaust system. The rest of day was spent fixing small leaks, chasing electrical gremlins, and buttoning everything up. By Sunday, the seventh day, the '55 was on the road, and we have to say it's the nicest driving car we've done yet. It's also, in our opinion, the most beautiful car we've turned out of our tech center, and because it has all the creature comforts, along with a massive 29-gallon CPP fuel tank, CPP plans on driving this ride to events all over the country this year. 🏆



Sources:

AA Customs;
614.504.8868;
AACustomsOhio.com

American Legend Wheels;
714.524.3100;
AmericanLegendWheels.com

BASF;
800.201.1605;
RefinishBASF.us

Bowler Performance
Transmissions;
618.943.4856;
BowlerTransmissions.com

Covercraft Industries;
800.274.7006;
CoverCraft.com

Classic Performance
Products (CPP);
714.522.2000;
ClassicPerform.com

Dakota Digital;
800.593.4160;
DakotaDigital.com

Danchuk;
800.648.9554;
Danchuk.com

Eaton;
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EatonPerformance.com

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EStop.com

Falken Tires;
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Hot Rods By Dean;
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Old Air Products;
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OldAirProducts.com

Painless Performance
Products;
817.244.6212;
PainlessPerformance.com

Real Deal Steel;
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RealDealSteel.com

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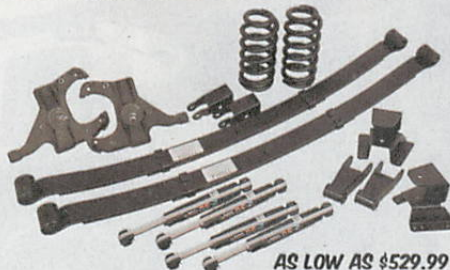
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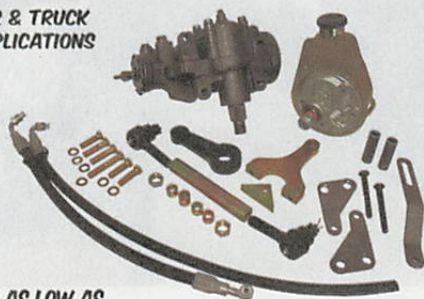


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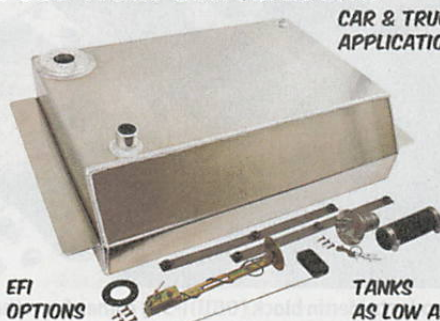
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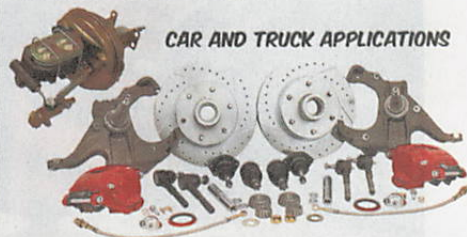


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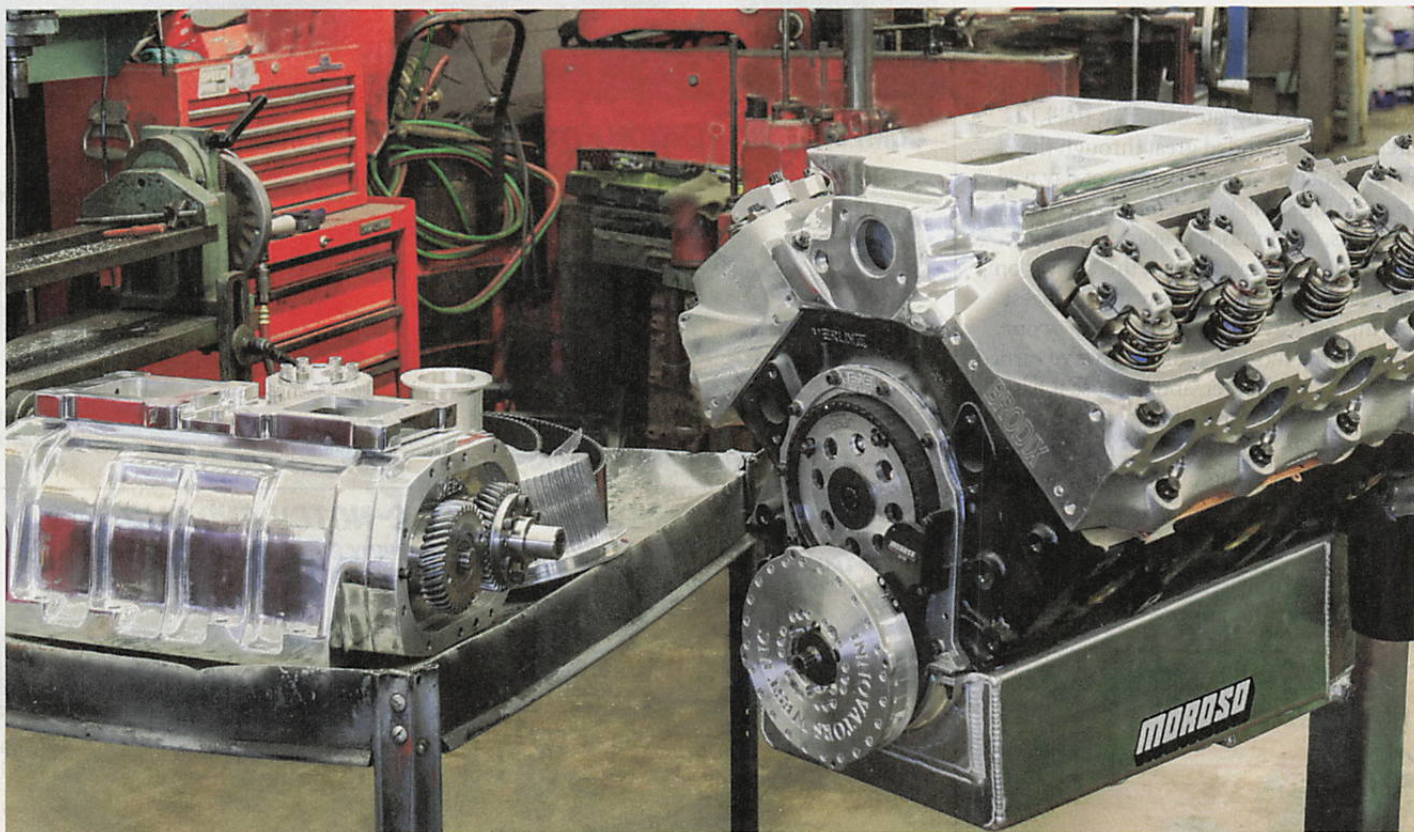


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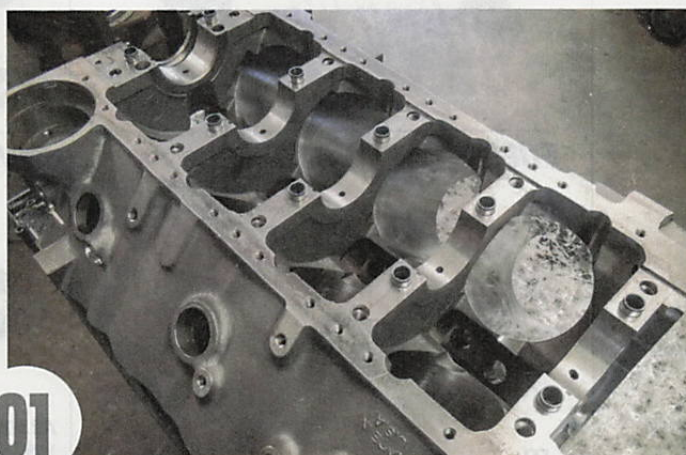
✍ Eric Geisert 📷 John McGann and Eric Geisert

Before turbos became all the rage, another type of forced induction was popular for its brass-knuckle appeal which came in the form of a spectacular-looking block of aluminum sitting proudly atop the engine. There's no denying the stage presence that a Roots style supercharger commands, and that's what sits on top of this 572 big-block Chevy.

Brian Hafliger of IMM Engine & Dyno wanted to build an engine that combined the blunt-force trauma looks of an old-school build with modern innovations like CNC-ported cylinder heads; an efficient piston ring pack; and a light-weight, low-friction valvetrain with upgraded springs. With that plan in place, Brian began assembling the parts list. From the start, this build was going to utilize an aftermarket engine block, so the decision to go big-displacement, tall deck

of a World Products Merlin III block, a SCAT 4.5-inch stroke crankshaft, 4.500-inch forged CP pistons with forged Carrillo rods, a custom Crane camshaft, Brodix heads, Hooker headers, a pair of Quick Fuel carbs, and a Dyers 8-71 blower.

Should you choose to run it with 14 psi of boost, Brian figures it should reliably make 1,200 horsepower. If you want to push things further, a pulley change and race gas should get you closer to 1400 hp. Who says you can't teach an old dog new tricks?



01 The World Products Merlin block (081111-55) comes from the factory with a 4.495-inch bore. IMM performed a finishing hone to accommodate the 4.500-inch pistons, then zero decked the block.

was kind of a no-brainer after that. The cost is comparable to a standard-deck block. Within the tall-deck architecture, Brian decided he liked the 572 for what he thinks is a favorable rod and stroke ratio.

Therefore, the main components of this engine consist

In keeping with the reliability mandate, this engine was configured to run with only 7 psi of boost, and when tested on the IMM's DTS dyno on 91-octane pump gas, the new old-school 572 cranked out 951 horsepower at 6,400 rpm and 878 lb-ft of torque at 5,000 rpm.

Sources

Brodix; 479.394.1075; Brodix.com

CP-Carrillo; 949.567.9000;
CP-Carrillo.com

Dyers Blowers, Inc.; 708.496.8100;
DyersBlowers.com

Hooker Headers; 866.464.6553; Holley.com/Brands/Hooker/

IMM Engine and Dyno; 760.347.5493;
IMMEngines.com

Innovators West; 785.825.6166;
InnovatorsWest.com

Jesel Inc.; 732.901.1800; Jesel.com

Manley Performance; 732.905.3366;
ManleyPerformance.com

Meziere Enterprises; 800.208.1755;
Meziere.com

Moroso; 203.453.6571; Moroso.com

Quick Fuel Technology; 866.464.6553;
Holley.com/Brands/Quick_Fuel/

Scat Crankshafts; 310.370.5501;
ScatCrankshafts.com

Torco Racing Oils; TorcoUSA.com

World Products; 877.630.6651;
PBM-Erson.com



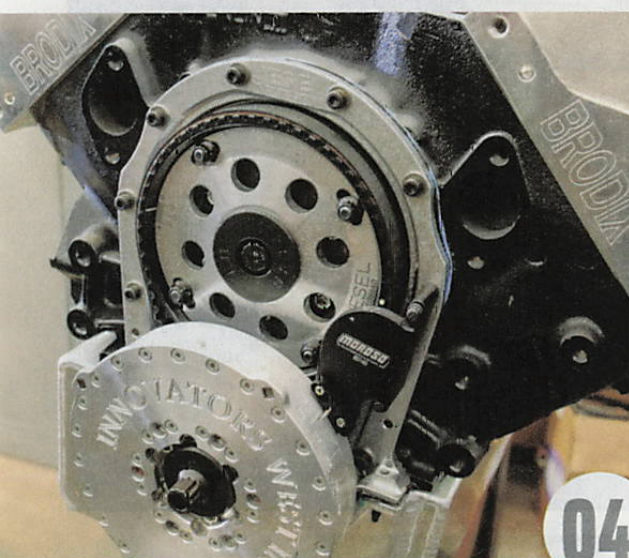
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02] A 4.50-inch SCAT #4-454-4500-6535-C crankshaft was fitted with forged CP-Carrillo flat-top S5020-8 pistons and BC22-6700 rods to complete the rotating assembly. Brian chose Crane's 55mm core camshaft with a custom grind.



03

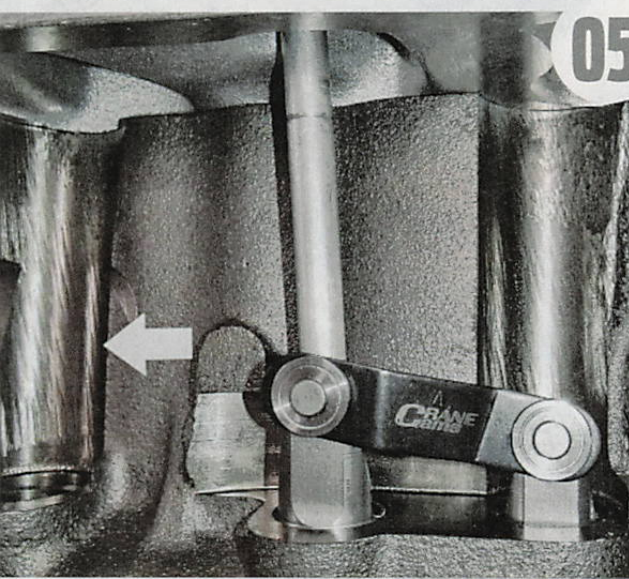
03] Brian uses an intake gasket to transfer the shape of the port from the cylinder head to the intake manifold, grinding away enough material to match the cylinder head. The rough surface left behind helps atomize the fuel as it travels through the intake.



04

04] A Jesel belt drive (KBD-3200) and Moroso timing pointer are attached, along with an Innovators West 106 FM PASS harmonic balancer designed for use with superchargers.

05] The arrows point to the areas in the valley where Brian ground the exhaust-side pushrod channels, widening them for added clearance.



05

06] The Brodix BB-3 Xtra-O Pkg oval-port head (#2031015) come with stainless 2.30/1.88-inch valves and full CNC porting

07] The 1.625-inch dual springs have an open pressure of 745 pounds and 255 pounds closed, a good match for our solid-roller camshaft. The titanium retainers shed weight from the valvetrain.

08] The longer exhaust pushrods (9.550x0.165 wall) from Manley have tapered ends for clearance due to the travel arc of the rocker arms. The intakes are 8.850x0.165-inch.

09] This Merlin block comes with four bosses added under the intake ports which hold a stud running up to the head that allows a more even torque pattern—especially important with blower builds



06



07

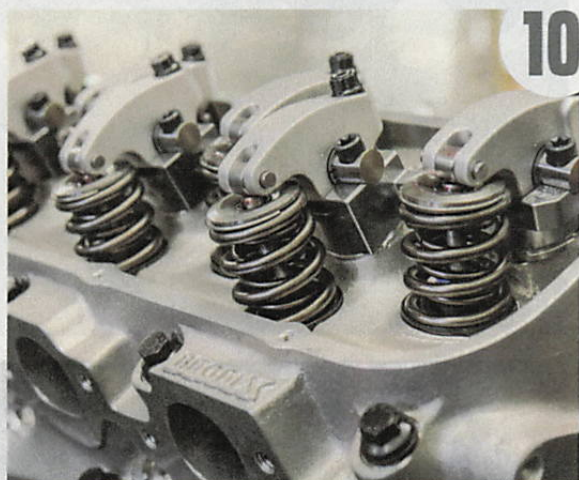


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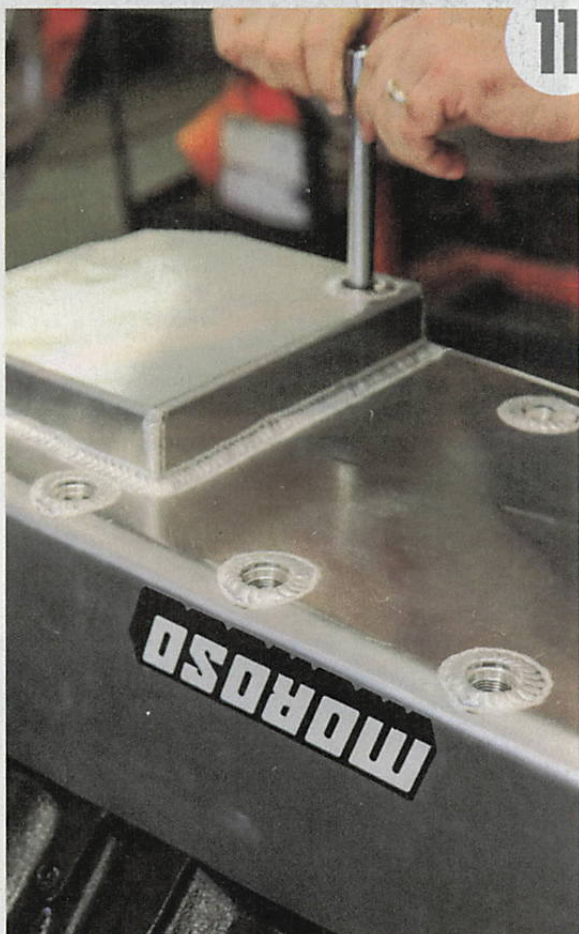
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10

10] IMM used Jesel's solid-bar KPS-28487 1.7 ratio rocker arms for maximum strength, lighter weight, and rock-solid valvetrain stability. They bolted on without any modifications to the head.



11

11-12] A Moroso seven-quart aluminum oil pan (#21600) does a good job of keeping the oil away from the crankshaft. It's secured to the block by studs with special nuts—half the amount required on a stock oil pan.

13] Before Brian installs the Dyers tall-deck intake manifold, he applied black Permatex silicone to both sides of the intake manifold gasket as well as at the ends of the block's valley, paying close attention to have enough sealer around the intake ports as blowers will try and find a weak point in the engine.

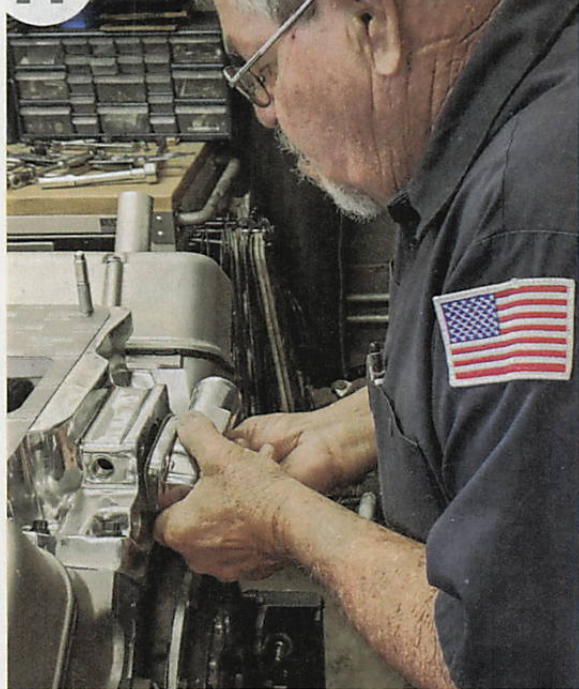
14] The engine was filled with nine quarts of Torco TR1 20W-50 oil, and Fred adds the thermostat housing. Brian performed all dyno pulls with the coolant temperature between 140 and 155 degrees.

15] IMM likes to use a Meziere electric water pump (#WT3005) so they can keep the water flowing after the engine has been turned off to reduce cool-down times.

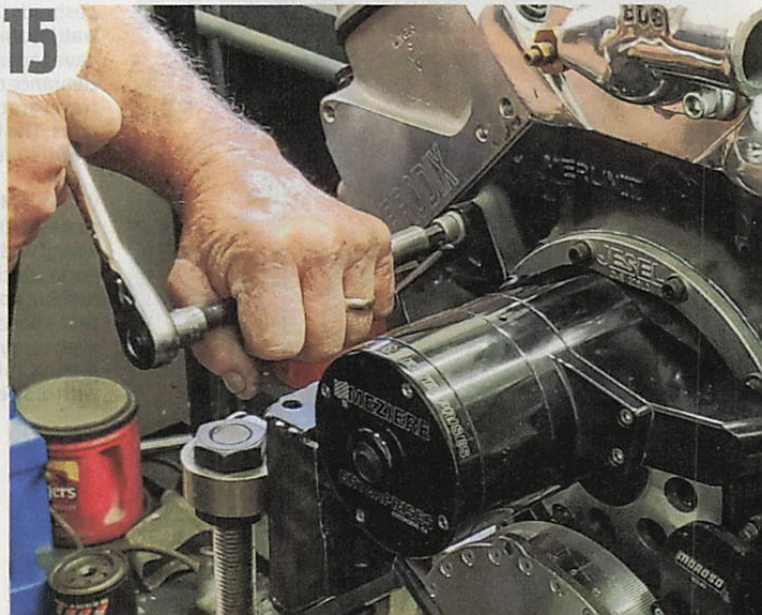
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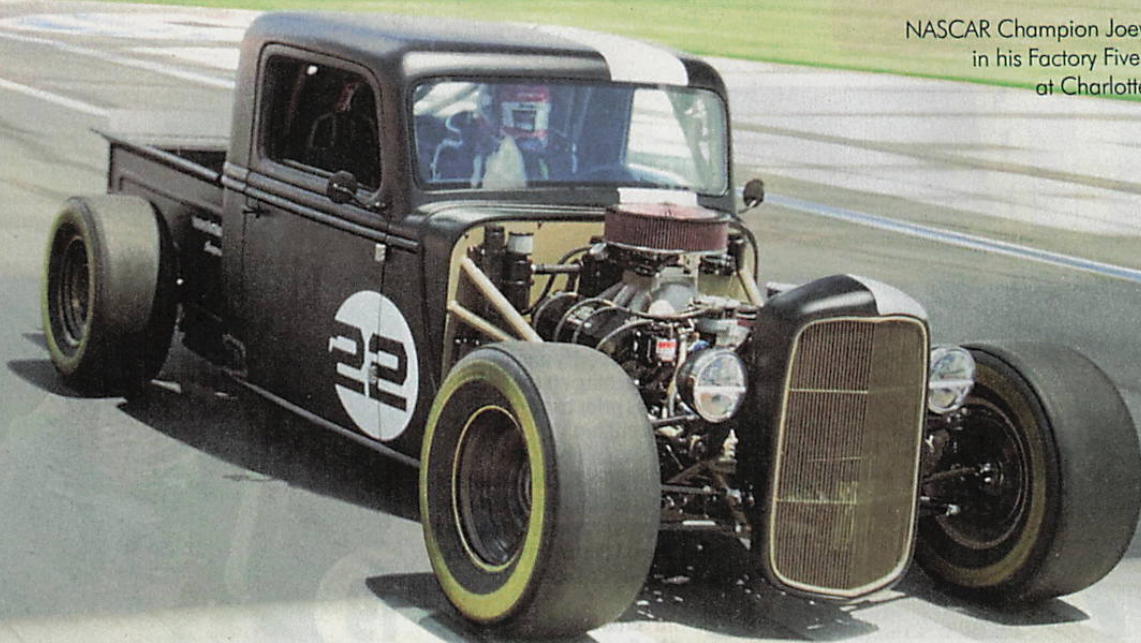
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12 15



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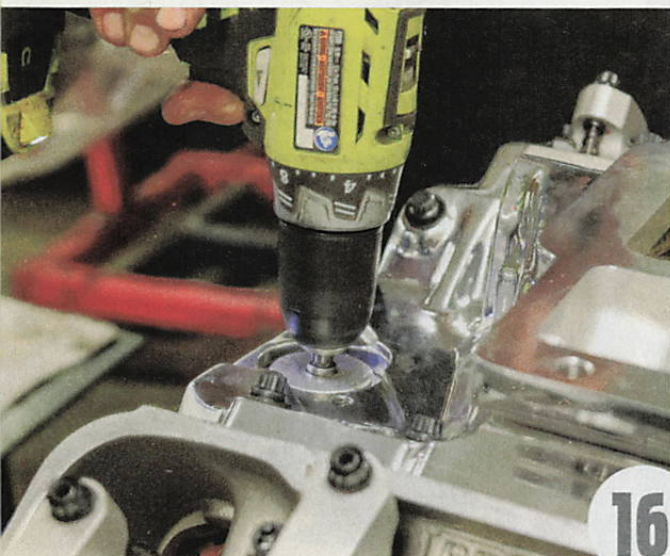
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16] Brian primes the engine with an electric drill to verify engine oil is reaching all the rocker arms prior to starting the engine.

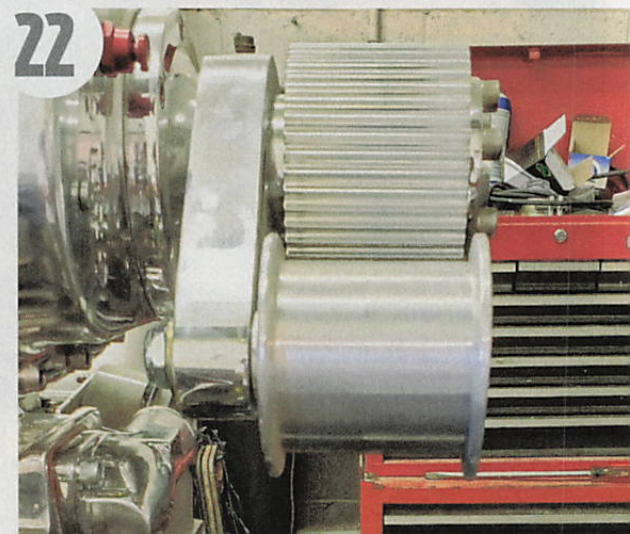
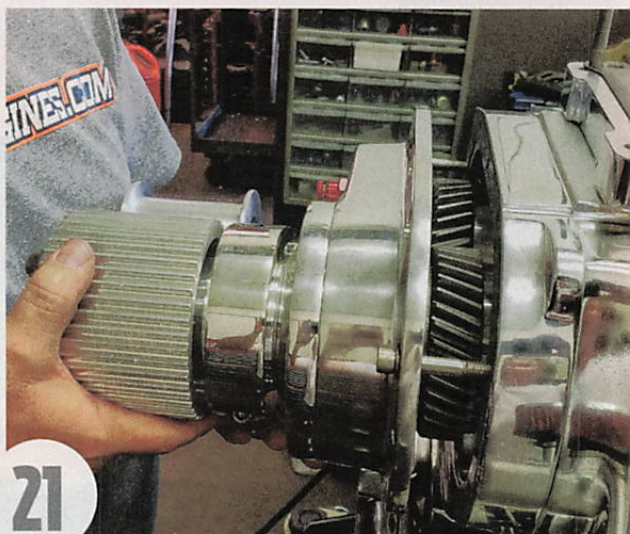
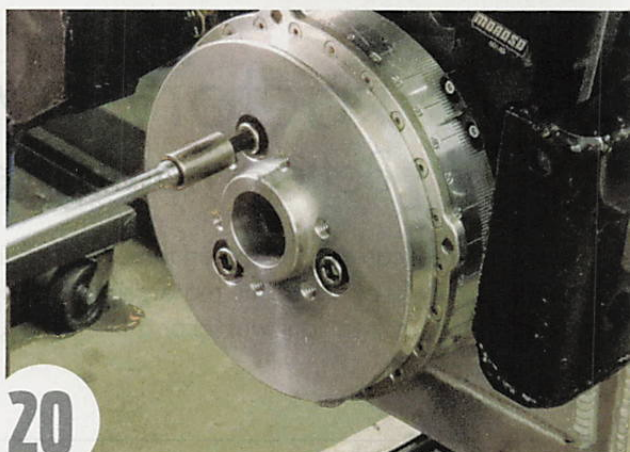
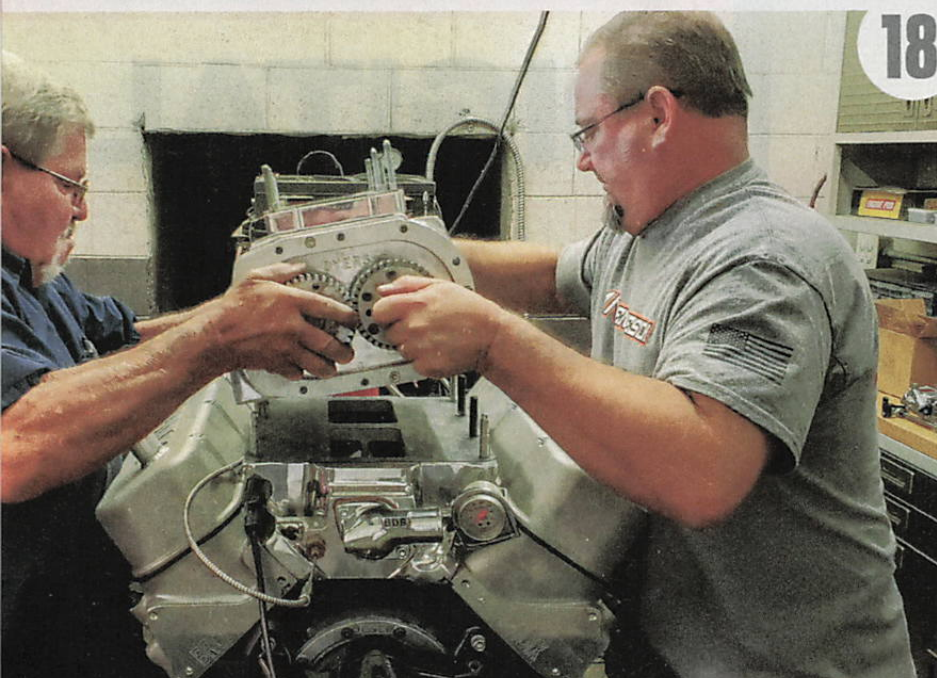
17] MSD's 85561 small cap distributor fits behind the supercharger and reaches the oil pump drive in this tall-deck application.

18] Fred and Brian drop the Dyers 8-71 supercharger onto the engine, a job better done with a helper, as the blower weighs roughly 64 pounds.

19] Using steel nuts on the aluminum threaded studs means you should coat the threads with anti-seize to prevent galling.

20-21] Brian used gasket sealer on both sides of the blower gasket before adding the upper and lower pulley/belt assembly from Dyers.

22] Obviously, you have to take care to align the upper and lower pulleys before the belt is added.



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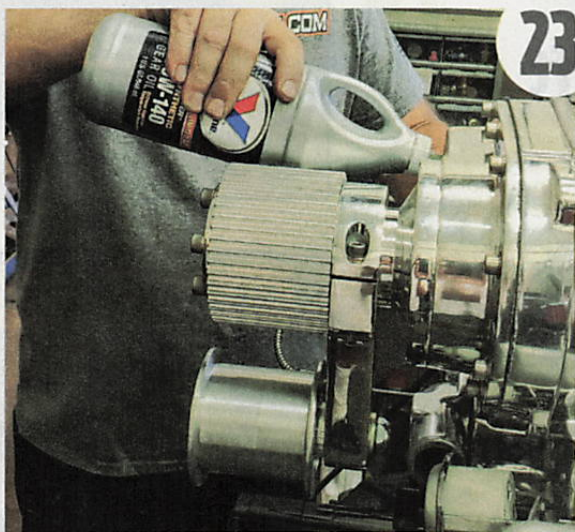
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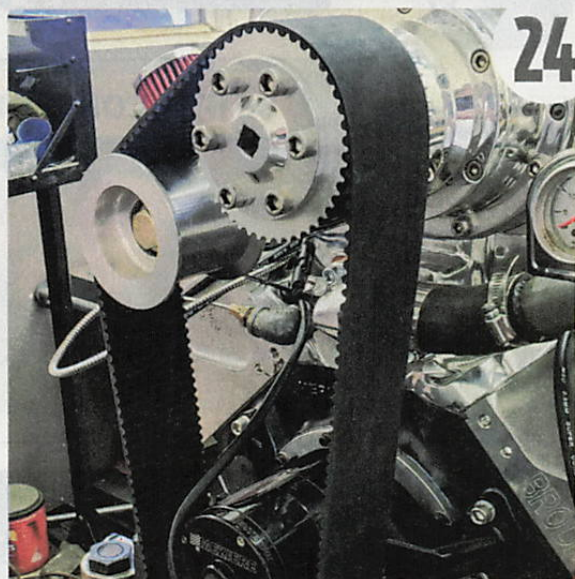
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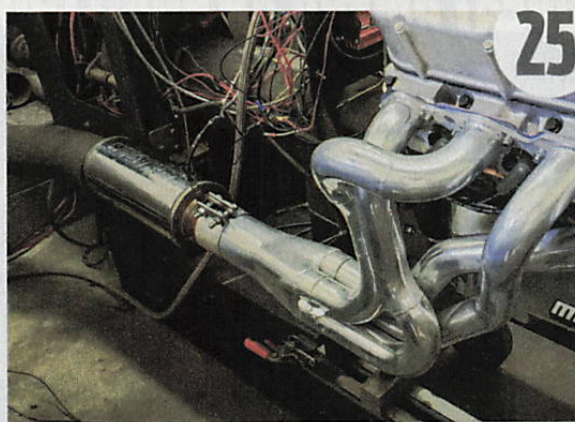
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23] The supercharger's drive gears need lubrication, so Brian fills it with 90W-140 gear lube.



24

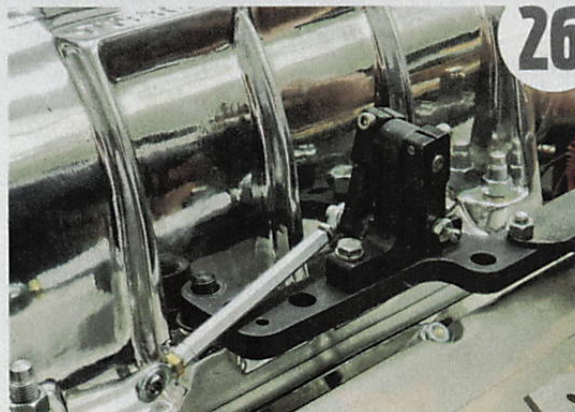
24] The 3-inch-wide belt will have a certain amount of flex when assembled. When measured in the middle of the long side, deflection should be no more than 1 inch cold and 1 1/4 inches hot.



25

25] For consistency in the readings, these Hooker 2401-HKR headers are what IMM uses for high-horsepower big-block Chevys. They have 2 1/4-inch primary tubes and 4-inch collectors. The NGK V-Power spark plugs (#8 heat range) were set with a 0.028-inch gap.

26] Dyers offers this dual-carb linkage system that utilize serrated heim joints to minimize slippage.



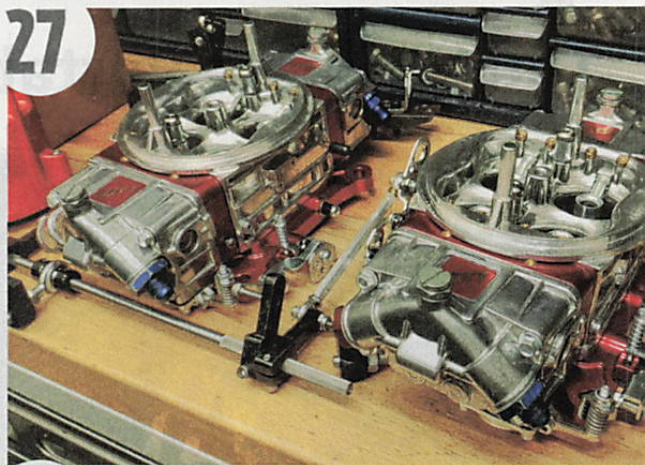
26

27] The dual 950 cfm Quick Fuel Technology Q-950-B2 carbs are made with billet metering blocks and dual-sight glass windows. IMM jetted the carbs with #78 primaries and #85 secondaries.

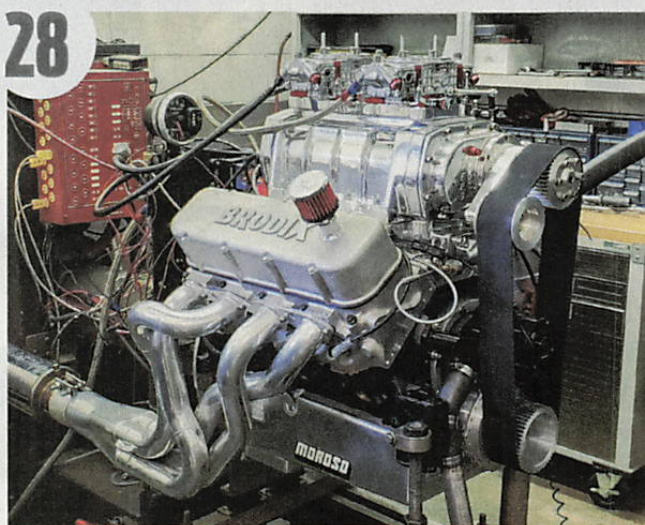
28] Now assembled, the new old-school 572 is ready to fire up. Brian runs it for about 12 minutes to bring it up to temperature and check for leaks.

29] Once everything is running correctly, Brian re-lashed the valves to a hot setting of 0.015 inch for intake and 0.017 inch for exhaust.

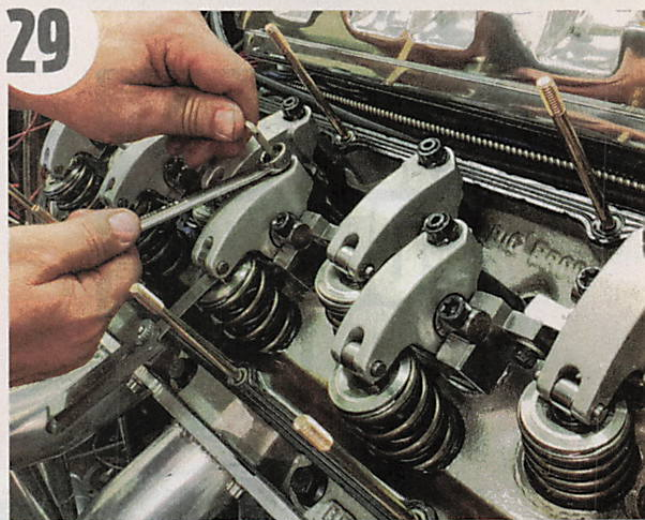
30] With 18 degrees of initial timing and 34 degrees total, Brian starts to make some hard pulls on the dyno.



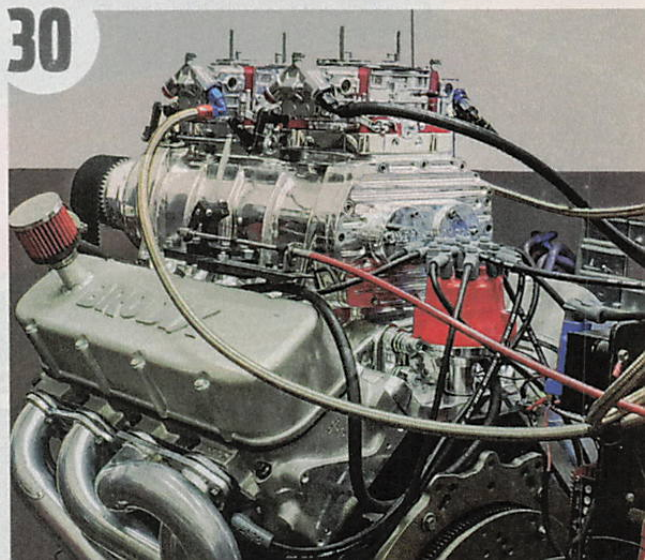
27



28



29



30

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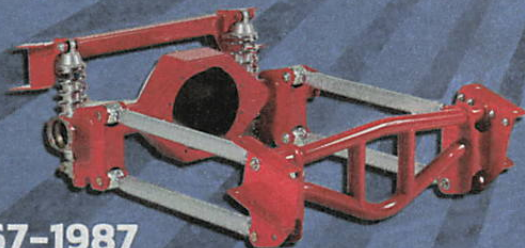
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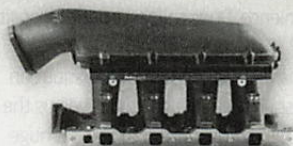
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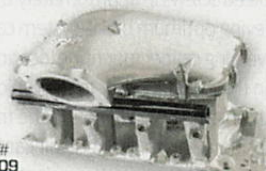
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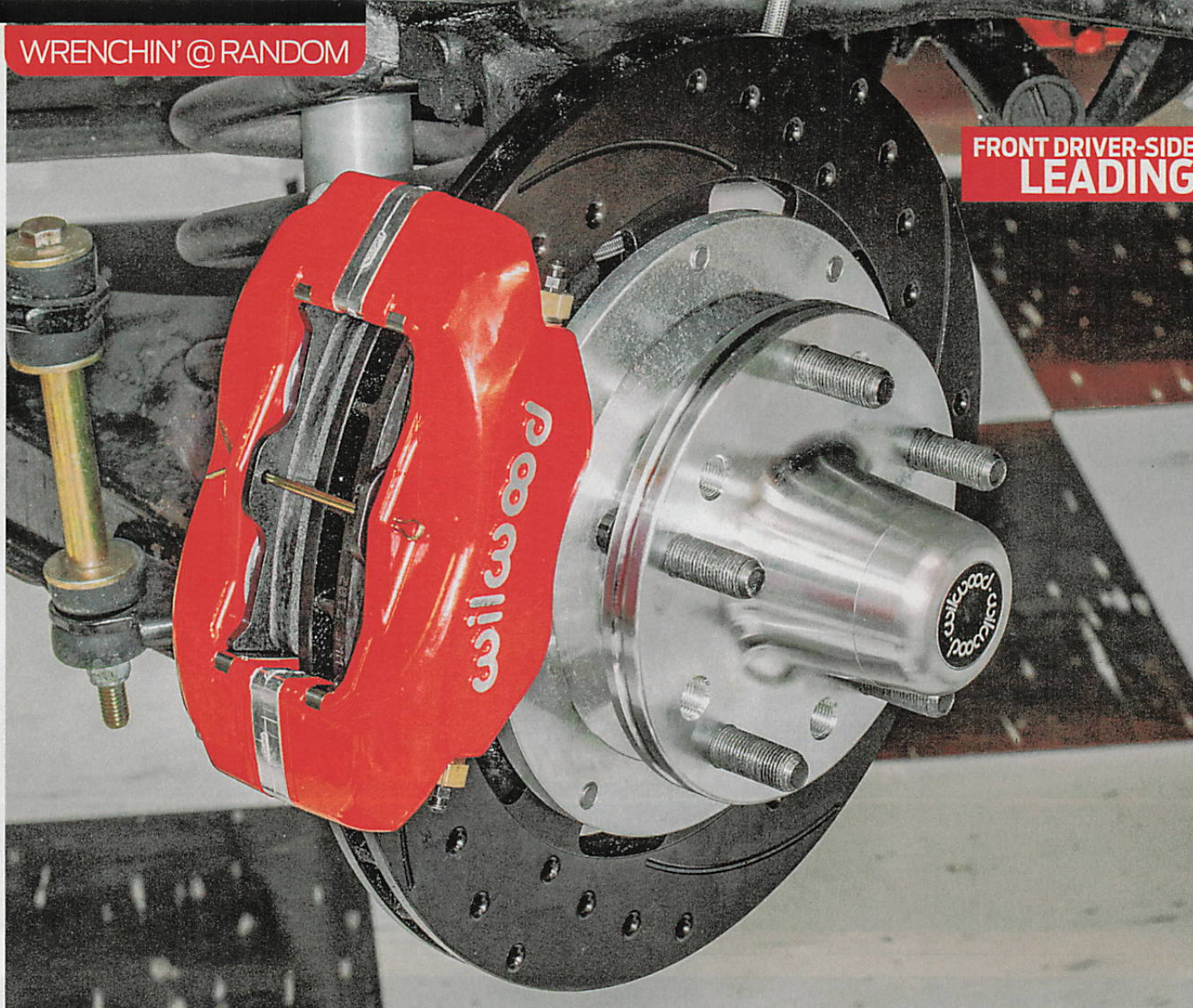
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FRONT DRIVER-SIDE
LEADING

Does Disc Brake Caliper Mounting Location on the Rotor Matter?

✉ Marlan Davis

Disc brake designers classify the caliper mounting position on the rotor as either “leading” (forward or ahead of the spindle or axle centerline) or “trailing” (rearward or behind the spindle or axle centerline). In theory, a caliper that mounts at a leading position might develop better squat and result in a greater tire contact patch under hard braking. Yet on production cars, caliper position is seemingly random—apparently just a matter of convenience. Does caliper mounting position really make any difference in the real world?

Not really. Chassis builders can achieve the desired amount of antisquat on acceleration and deceleration by altering suspension-linkage angles versus the vehicle’s center of gravity. The gains achievable by suspension tuning are huge compared to any derived from altering caliper mounting location; therefore, caliper-to-chassis clearance, positioning the bleed screws in approximately the 12 o’clock position to avoid trapped air, and achieving optimum brake-system cooling for the application are the primary factors governing caliper mounting location.

Some chassis builders may elect to position the calipers closer to the vehicle’s center to enhance weight distribution by mounting the front calipers in the trailing position and the rear calipers in the leading position. This might be significant on ultra-lightweight open-wheel race cars, but whether it really makes a significant difference on heavy sedans or road vehicles is questionable.

FRONT PASSENGER-SIDE
TRAILING

[Disc brake calipers may mount on the rotor “in lead” or “in trail,” which refers to their position relative to the spindle or axle centerline. In nearly all cases there is no real-world performance advantage for one position over another, other than clearing the suspension and ensuring the bleed screw points up.

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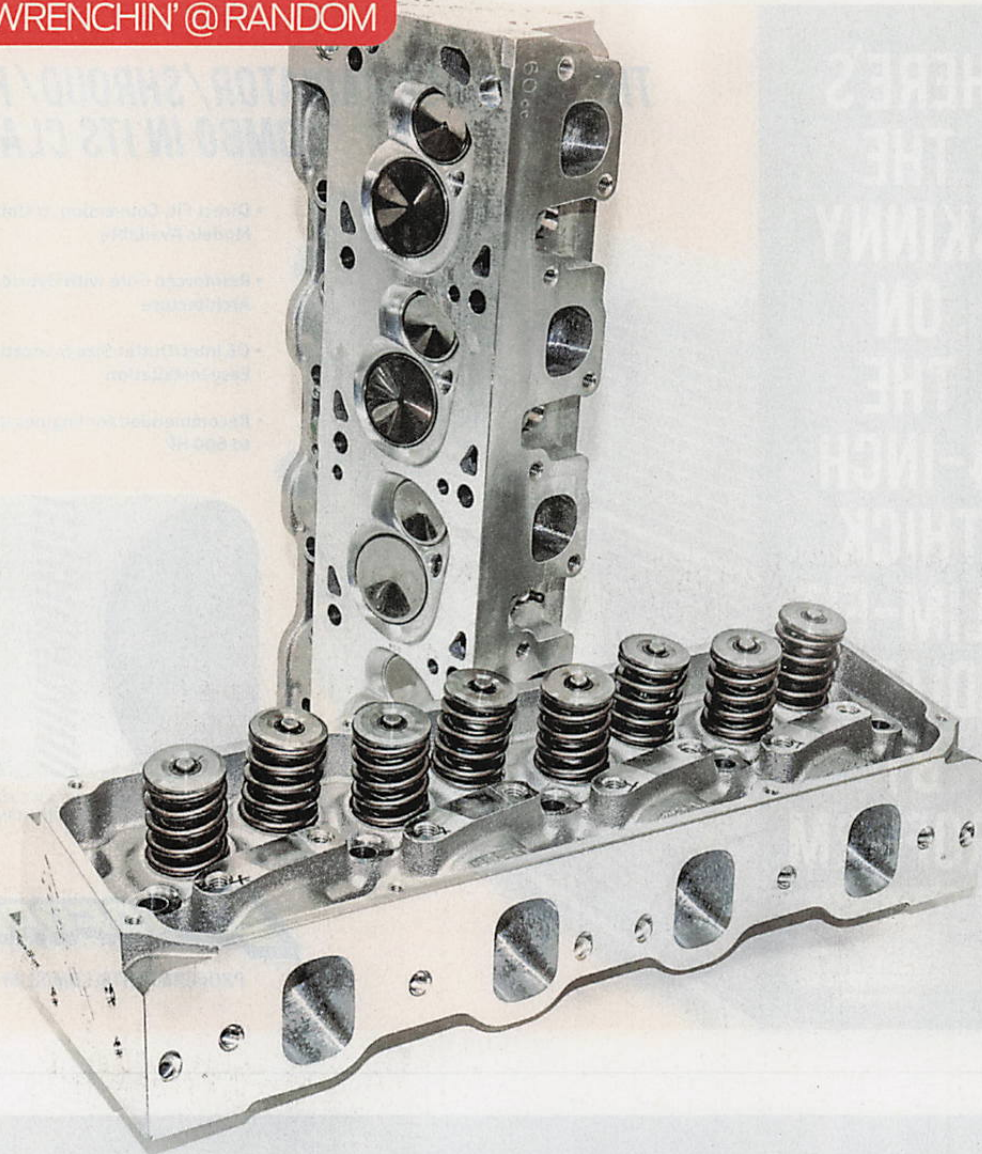
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[TFS PowerPort aluminum Ford 351C cylinder heads come in at least a dozen different assembled configurations. For Joe Hicks' 393ci stroker, we selected these larger PowerPort 225 heads. They feature fully CNC'd, competition ported runners with a premium high-resolution surface finish for max all-out performance.]

have fallen out of favor as just too big for anything besides all-out professional competition. On the other hand, standard 2V open-chamber heads are lazy, drop compression, and are more detonation-prone than 4V chambers. That is why the Aussies combined 2V ports with 4V chambers, which in their day delivered the best overall performance in most applications. But TFS ups the game further, offering an improved closed, heart-shaped, fast-burn chamber with relocated spark plugs plus 45 years' worth of evolution in port shape, intake and exhaust port contours, and short-turn radii. A revised oil return system also improves oil drain-back.

REAL-WORLD REPAIR: 1973 MUSTANG

We Fixed the Flat Cam Lobe in Don Hicks 393ci Cleveland, then the Heads Proved Beyond Economical Repair. Thanks to TFS, We're Gonna Fix It.

✍️ 📷 Marlan Davis

THE STORY SO FAR

When Mark Sanchez of Advanced Engineering West inspected the 393ci Ford Cleveland stroker in Don Hicks' 1973 Mustang, he originally diagnosed the rough-running engine's major problem as a failed No. 1 intake cam lobe on the hydraulic flat-tappet cam (Part 1, March 2020 print edition; and online at HotRod.com). Upgrading to a Comp Cams' Mutha' Thumpr hydraulic-roller cam and associated valvetrain components proved to be only half the fix. It turned out a previous machinist had botched the adjustable valvetrain conversion on the engine's rare, Ford Australian 302C-2V Cleveland heads to the extent

they were beyond economical repair, with the valves and rocker studs on the canted valve casting ending up misaligned in all three axes—likely, the root cause of the cam failure. With a head swap now in the cards, why not realize the big cam's full potential by going to modern free-flowing, aftermarket aluminum heads?

"The TFS heads are a very good performance/dollar value. Hicks could have saved money in the long run and achieved much better performance if he installed them in the first place." —Mark Sanchez

GETTING AHEAD

Our choice: Trick Flow Specialties (TFS) PowerPort Cleveland heads. Not only does TFS have a sterling reputation for delivering great performance/dollar, it's one of the few aftermarket outfits currently making modern aluminum Cleveland-style cylinder heads that still retain production-based runners and valve angles. Out of the box, the castings fit Ford 351C, 351M, and 400 engines; with minor machining, they also work on widely available Ford 302/351W blocks to build a replica Boss 302 or 351 Cleveland engine.

TFS's intake runners are based on the OE Ford 2V design. For most applications, the huge (and rare) 4V Cleveland ports

Sources

Advanced Engineering West (AEW); Mira Loma, CA; 626.222.4648; AEWperformance@aol.com

Autolite, a Division of FRAM Group IP LLC (Rank Group Ltd.); Lake Forest, IL; 855.200.5200; Autolite.com

Automotive Racing Products (ARP); Ventura, CA; 800.826.3045 or 805.339.2200; ARP-Bolts.com

Comp Cams; Memphis, TN; 800.999.0853 or 901.795.2400; CompCams.com

Edelbrock LLC; Torrance, CA; 800.416.8628 (tech) or 888.799.1135 (e-commerce sales and customer service); Edelbrock.com

Fel-Pro (Federal-Mogul Motorparts LLC); Southfield, MI; 800.325.8886; FelPro.com or FME-Cat.com/catalogs.aspx

Permatex, ITW Global Brands; Solon, OH; 877.PERMATX; Permatex.com

Quick Fuel Technology, a Holley Brand; Bowling Green, KY; 866.464.6553; Holley.com/brands/quick_fuel/

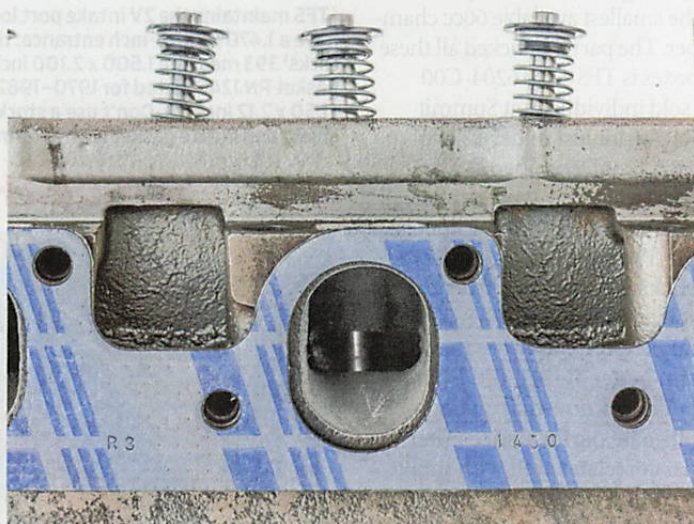
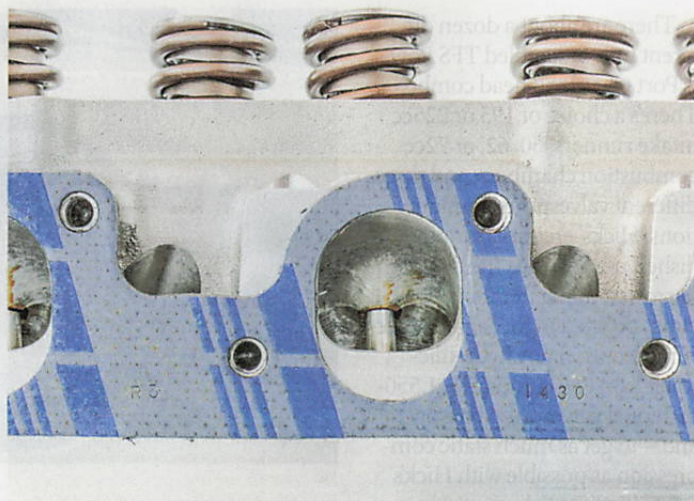
Summit Racing Equipment; Akron, OH; 800.230.3030 (U.S.) or 330.630.3030 (outside U.S.); SummitRacing.com

Trick Flow Specialties; Tallmadge, OH; 888.841.6556 or 330.630.1555; TrickFlow.com

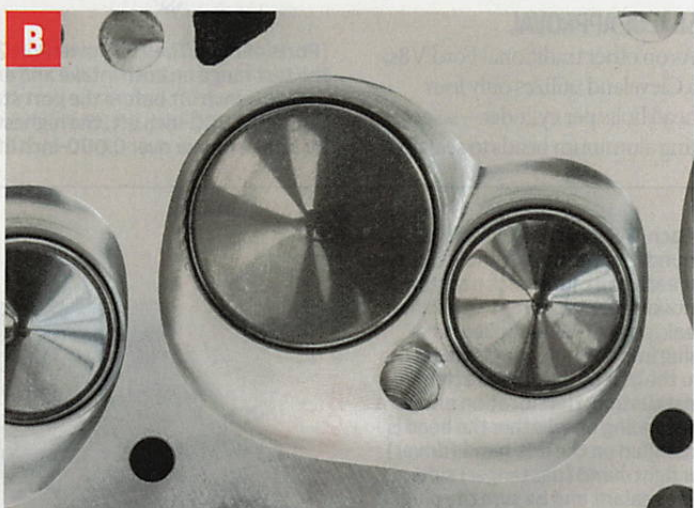
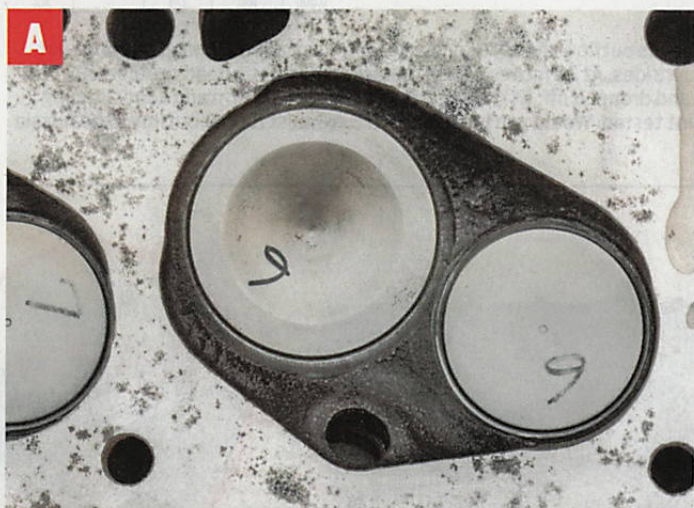
Westech Performance Group; Mira Loma, CA; 951.685.4767; WestechPerformance.com



Using denatured rubbing alcohol with green food dye added for visibility, Sanchez cc'd a cylinder to determine which TFS combustion chamber volume to get. With the measured 19.4cc piston dish volume, a zero piston deck-height, and a 9.20cc Fel-Pro performance head gasket (PN 1013), static compression with TFS' 60cc chamber heads—the smallest available—came out to 10.08:1. If building the short-block from scratch with new pistons and a healthy performance cam, aluminum heads can generally tolerate 10.5:1 or even higher compression ratios on 91-octane unleaded pump gas.



The roof on TFS's 115cc exhaust ports (top) is 0.100-inch higher than stock (bottom). TFS filled in the dead area at the bottom of the stock oval port to develop a modern D-shaped exit profile; the runners themselves feature a better-flowing, short-turn radius. Fel-Pro exhaust gasket PN 1430 for 1970–1982 2V Cleveland and M-series engines fits TFS.



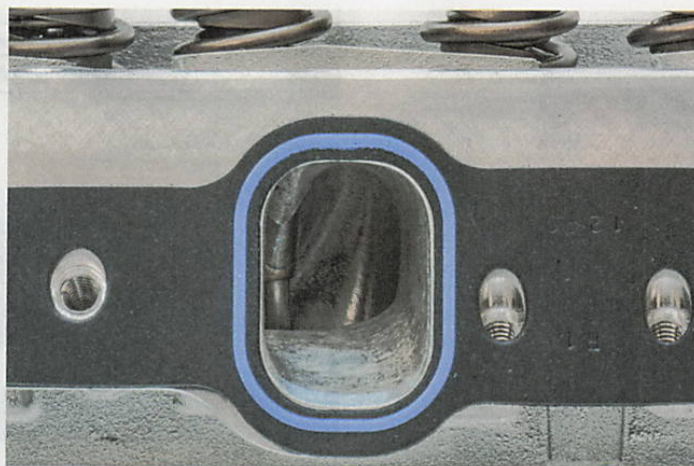
Hicks' original iron Cleveland heads came stock only on Australian-built 302C-2V Cleveland engines (there is no U.S.-built equivalent). These heads (A) had 2V ports and 2.05/1.65-inch valves in a traditional 4V closed chamber that displaced just 57–59cc. TFS aluminum heads (B) have redesigned fast-burn, detonation-resistant, closed chambers as small as 60cc, with 2.08/1.600-inch valves. Note the TFS chamber's centrally positioned spark plug angled slightly toward the exhaust side, as well as its heart-shaped far-side wall; features typical of modern fast-burn heads.

There are about a dozen different fully assembled TFS PowerPort Cleveland head combos. There's a choice of 195 or 225cc intake runners; 60, 62, or 72cc combustion chambers; and three different valvespring configurations. Hicks' engine size and dished pistons, plus the new cam narrowed down the choices: 393 cubes pointed to the larger 225cc runner option; the hydraulic-roller cam to a compatible 1.550-inch dual valvespring package; and—to get as much static compression as possible with Hicks' existing reverse-dome pistons—the smallest available 60cc chamber. The part that ticked all these boxes is TFS-51616204-C00 (sold individually at Summit Racing for just under \$2,690 each as of December 2019).

As tested on Westech Performance's SuperFlow bench, the TFS juggernaut outflowed Hicks' Australian 2V heads at every lift point. The TFS intake port was more than 100 cfm better at high lift! Engine builders know that an engine's ultimate performance potential correlates well with intake port flow, assuming a complimentary cam, and maximum compression ratio. On a normally aspirated engine with 0.700-inch valve lift, the math says TFS heads can conservatively support 644 hp, compared to just 407 hp for Hicks' original heads.

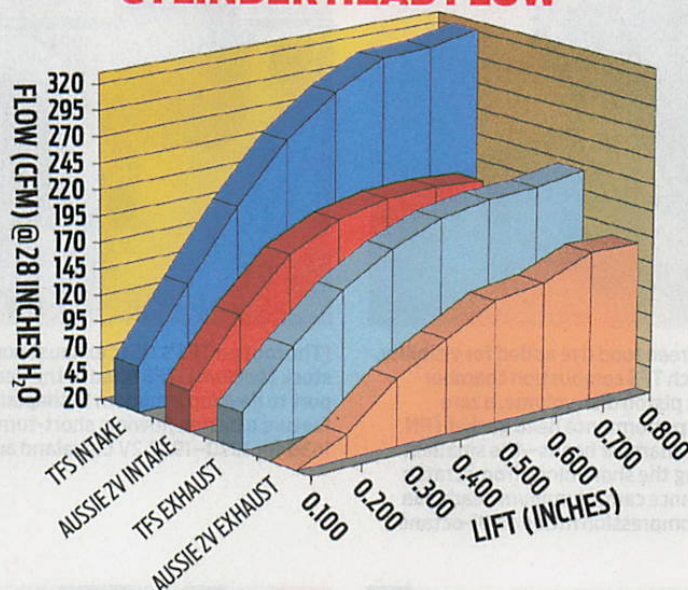
SEAL OF APPROVAL

As on other traditional Ford V8s, a Cleveland utilizes only four head bolts per cylinder—so getting aluminum heads to seal up



TFS maintains the 2V intake port locations. 195cc intake runner versions have a 1.470 x 2.100-inch entrance; the larger 225cc runner heads used on Hicks' 393 measure 1.500 x 2.100 inches (shown). Fel-Pro Performance gasket PN 1240, listed for 1970–1982 Cleveland 2V heads, is a good fit (1.50 x 2.12 inches). Don't use a stock Cleveland one-piece metal valley oil shield and intake gasket with aftermarket heads and intakes.

CYLINDER HEAD FLOW



Ports of haul: The TFS PowerPort 225 heads outflow the 1970s-vintage Ford Australian 2V heads throughout the test range on both intake and exhaust sides. At 28 inches of test pressure, the Aussie heads gulped 202 cfm at 0.700-inch lift before the port stalls and dropped off; at the same point TFS saw 313 cfm and kept climbing through 0.800-inch lift, the highest point tested. Would you believe the TFS exhaust runner outflows the Aussie 2V intake runner over 0.600-inch lift?

"If you put the head gaskets on backwards or install the head deck plug in the wrong end, you will cook the motor."

—Mark Sanchez

reliably on a hopped-up engine requires some care. In the head bolt department, Sanchez went with ARP, carefully following their tightening instructions using ARP's special lubricant. As for head gaskets, we rely on Fel-Pro, but for a Cleveland—these days considered a niche engine—it offers two choices: a blue standard replacement or its trick high-performance black version. We recommend using the black one on performance engines.

"If running oversize pushrods, be sure to check the hole-clearance through the heads."

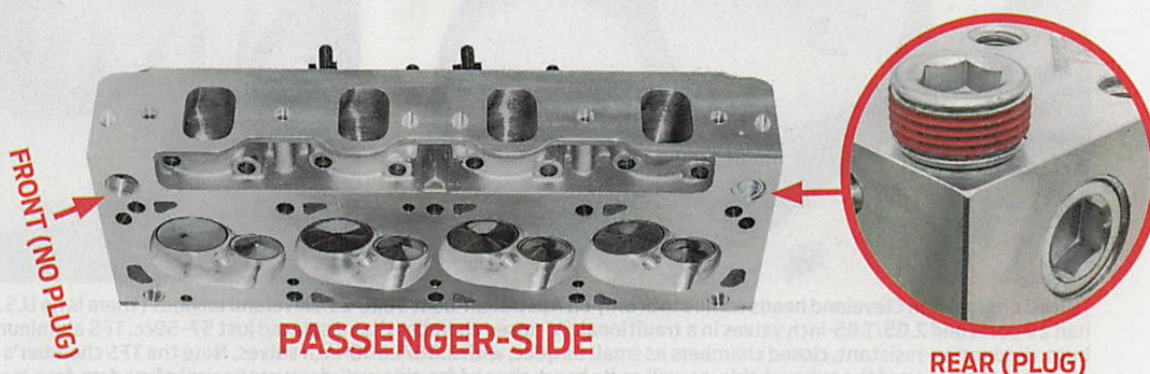
—Mark Sanchez

HEAD FLOW NUMBERS

Flow numbers in cfm at 28 inches of water.

VALVE LIFT	EXHAUST		INTAKE	
	AUSSIE 2V	TFS 225	AUSSIE 2V	TFS 225
0.100"	20	56	59	64
0.200"	43	107	120	132
0.300"	84	150	167	196
0.400"	110	178	190	250
0.500"	136	197	200	287
0.600"	142	205	202	311
0.700"	161	207	198	313
0.800"	160	214		322

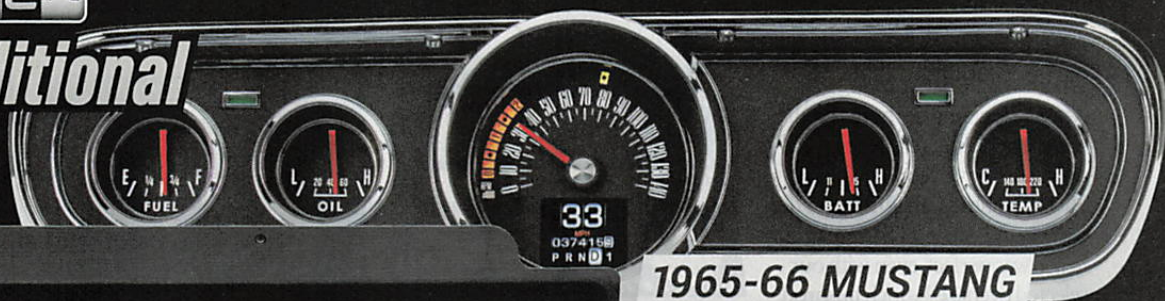
Each TFS head has two critical round coolant transfer holes, one at each end of the deck near the intake face. To prevent an internal leak, screw TFS's supplied pipe-plug into the hole that is closest to the rear of the engine after installation; that location differs depending on whether the head is installed on the left-hand (driver) or right-hand (passenger) side. Use sealant and be sure the plug does not stick out above the deck surface. These photos depict a passenger-side plug installation. A driver-side installation would be the reverse of what's shown here.



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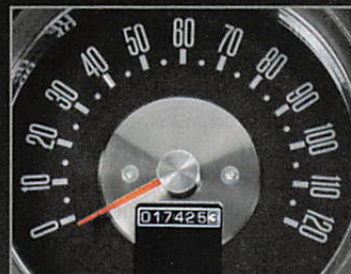
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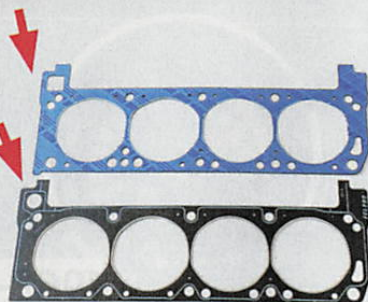
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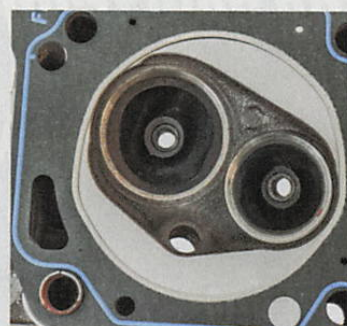
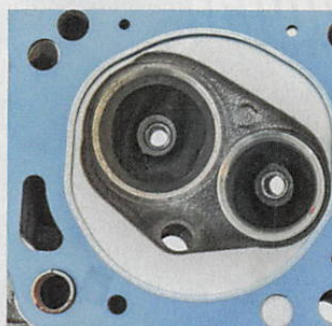


VALVETRAINING

After assembling the heads on the block, Sanchez carefully mocked up the upper valvetrain. Unlike Hicks' old heads, alignment on the compound-angle TFS Cleveland heads was perfect, even with our selected oversize $\frac{3}{16}$ -inch pushrod guideplate option. Normally the heads come set up for $\frac{5}{16}$ -inch pushrods, but larger (albeit heavier) pushrods are the preferred choice for greater valvetrain stability. Save weight if you can on the valves, springs, and retainers, but not on the pushrods. After checking the valvetrain geometry, only then order the final pushrod length. Be sure to make these checks using the camshaft, head gasket, and rocker arms you'll be using, and after any final block or head machining—all this does make a difference! On Hicks' engine, the correct length for the custom-order TFS $\frac{3}{8}$ pushrod length came out to 8.100 inches.



[Fel-Pro Cleveland head gasket choices: standard-replacement "blue" (PN 8347PT-1) or high-performance "black" with stainless fire-rings and embossed silicone water jacket seals (PN 1013). Note the two gaskets different coolant transfer hole shapes (arrows); the black gasket's round hole is likely a better match to the round hole machined in most aftermarket aluminum heads.



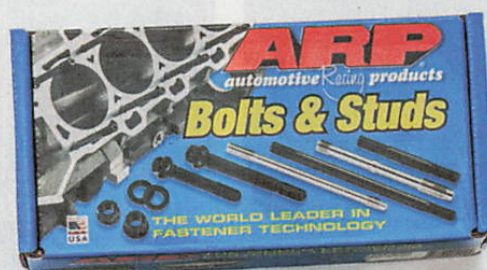
[Don't let the catalog note that says the black performance version "does not fit 2V heads" throw you. It should really read "does not fit 2V open chambers." Heads with closed chamber profiles—whether aftermarket like the TFS or (shown) Hicks' original, rare Aussie 2V heads with 4V closed chambers—work fine with the black gasket. The blue gasket's fire ring is a little wider and is said to fit both 2V and 4V chambers, at the cost of some quench loss and possible crevice-induced detonation tendencies on 4V chambers.



[Correct Cleveland head gasket alignment: "FRONT" stamp faces forward, properly positioning the large coolant-transfer "ear" hole towards the block's front end. This photo depicts driver-side gasket alignment: "FRONT" faces up and is visible. On the passenger side, "FRONT" would face down toward the block deck (not visible as installed).



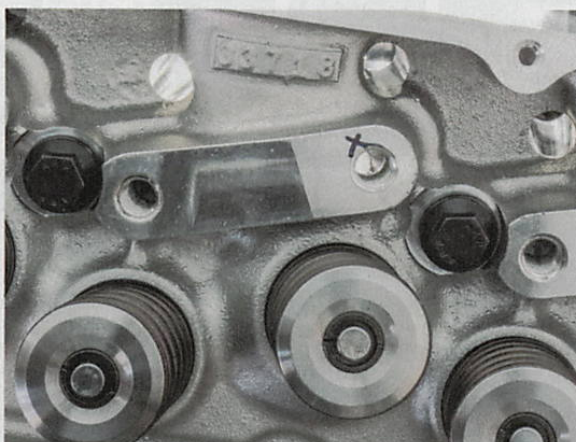
[TFS heads use standard-length Cleveland head bolts. Hicks already had ARP High-Performance series head bolts, but Sanchez noticed several galled threads on the old set. Sure enough, some of the block's softer female threads had rust, debris, or burrs on them. Moral: Clean and inspect all hardware prior to installation and chase the old head bolt holes with a tap. On an assembled short-block, coat the tap with grease and carefully tape off the decks and valley with paper sheeting to protect against stray tap debris.



[Don't try to repair ARP's hardened, rolled-after-heat-treatment, male threads—just get a new set. We went even better, stepping up from Hicks' High-Performance series six-point bolts to ARP's premium Pro Series 351C/351M/400 Ford 12-point head bolt set, PN 254-3704. ARP supplied all aftermarket fasteners for this project.



[Use ARP Ultra-Torque assembly lubricant on the Cleveland head-bolts' blind threads, and between the washer and bolt head, but don't lube the washer's bottom side. To clear ARP's large under-head radius, the bolt washer's large chamfer must face up. Tighten the 200,000-psi, $\frac{1}{2}$ -20 Pro Series bolts to 110 lb-ft in three equal passes following Ford's recommended torque pattern.



[TFS's intake rocker arm stud mounting-holes break through the roof of the intake runners. Coating the stud threads with ARP's Teflon-based thread sealer precludes any vacuum leaks through the open holes. This sealer also works for other engine blocks with wet head-bolt threads, duplicating ARP's recommended fastener installation preload torque values.





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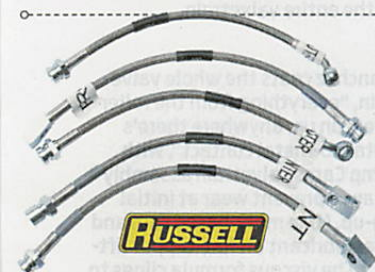
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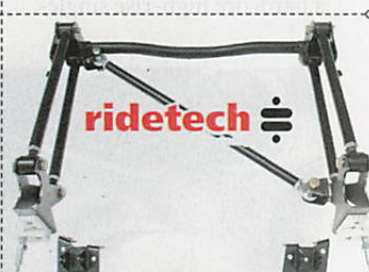
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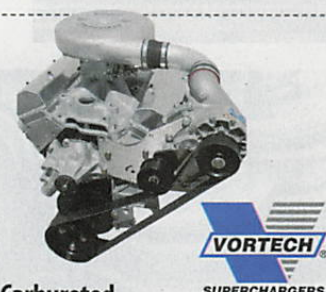
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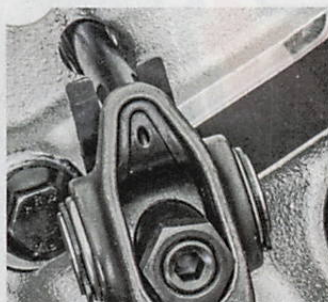
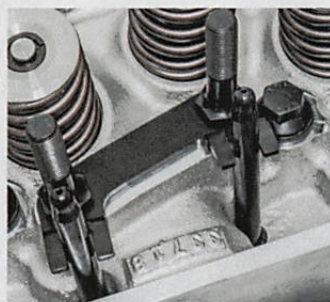
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"Check your pushrod length using the valvetrain parts that actually will be installed on the engine."

—Mark Sanchez

MANIFOLD CHOICES

As received, Hicks was running Edelbrock's low-rise Performer dual-plane intake manifold, topped by a Brand-X small four-barrel economy carb. They weren't up to feeding his original combo, let alone the new cam and heads. But what about the 1971–1973 Mustang's reputation for limited hood clearance? Never call retreat, says I. In this case, get the best intake and carb for the application and hang the hood clearance; we'll worry about it later. TFS does make a hardcore high-rise single-



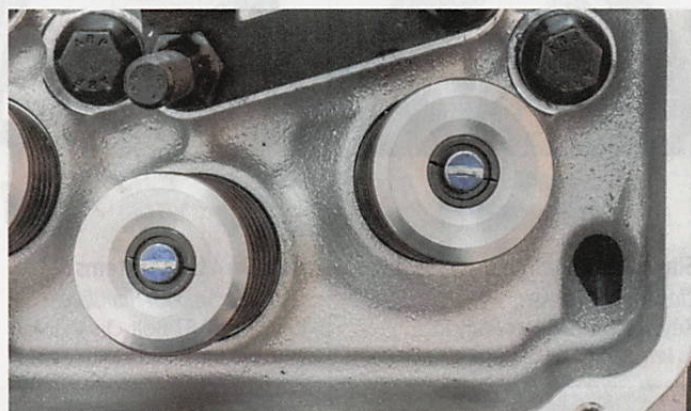
[We chose TFS's 3/8-inch pushrod guideplate upgrade option for greater valvetrain stability. Be sure to cycle the valvetrain and check for adequate clearance where the oversize pushrods pass through the holes in the heads. Sanchez observed tight—but sufficient—clearance on all pass-throughs. Note, too, the pushrods perfectly centered in the guideplate slots.



[Even with the Cleveland's canted valvetrain, TFS machining accuracy is dead-on, with the roller-tip on Comp Cams' Pro Magnum rocker arm flush and centered over the valve stem tips

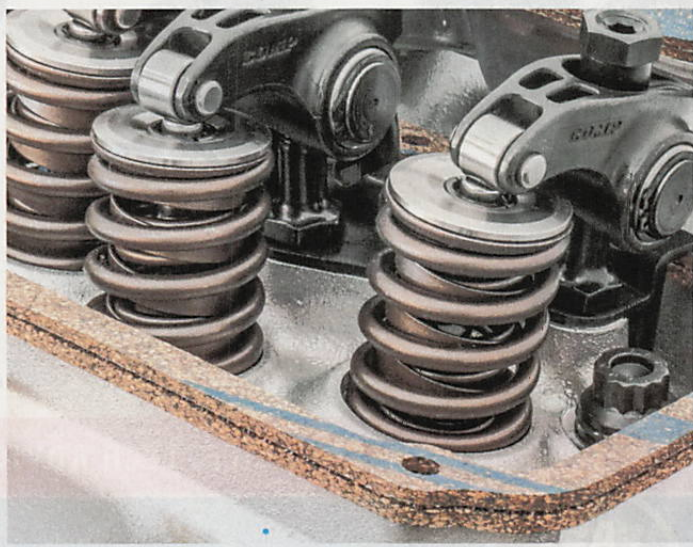
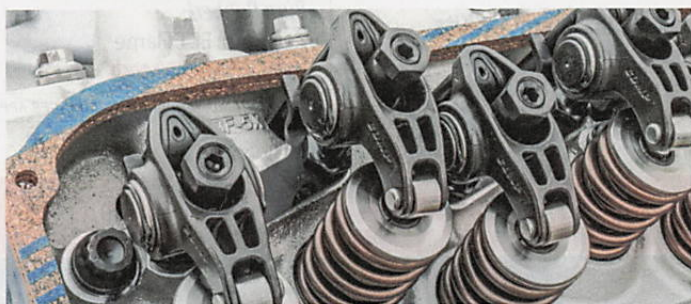


[Sanchez used a Comp Cams Hi-Tech adjustable checking pushrod to establish the pushrod length needed for optimum valvetrain geometry. Each complete revolution on the easy-to-read design equals an 0.050-inch change in length. Many factors influence pushrod length on modified engines, so pushrods should be the last parts ordered after mocking up the entire valvetrain.



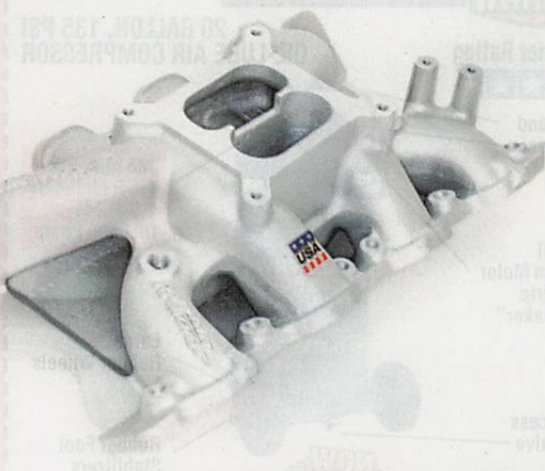
[Sanchez coats the whole valvetrain, "everything from the roller lifters on up, anywhere there's metal-to-metal contact", with Comp Cams valvetrain assembly spray to prevent wear at initial fire-up. (Use moly-based cam and lifter lubricant on flat-tappet lifters.) The viscous formula clings to parts for max protection and also provides an anticorrosion barrier on stored motors.

[As rocker arms pivot in an arc, their contact point wanders across the valve stem tip as the valves open and close. The contact patch witness-mark should be narrow after a full open/close cycle, confined to around the center third of the stem tip. With proper geometry, the rocker contact point will be slightly off-center toward the edge nearest the rocker arm fulcrum with the valve closed, pass across the centerline and move slightly toward its outside edge at mid-lift, and then back slightly inboard of center at full lift. If the contact point starts at the stem center and keeps moving toward one edge as lift increases, the pushrod is too long or too short.



[Final assembled combo includes TFS 3/8-inch pushrods and guideplates. Bulletproof Comp 1.7:1 Pro Magnum rocker arms deliver increased strength and rigidity while still reducing the moment of inertia. TFS 1.550-inch dual springs with damper, chromoly retainers, and 10-degree machined-steel locks develop 138 lbs at a 1.950-inch installed height and 430 lbs at a 1.250 open height.

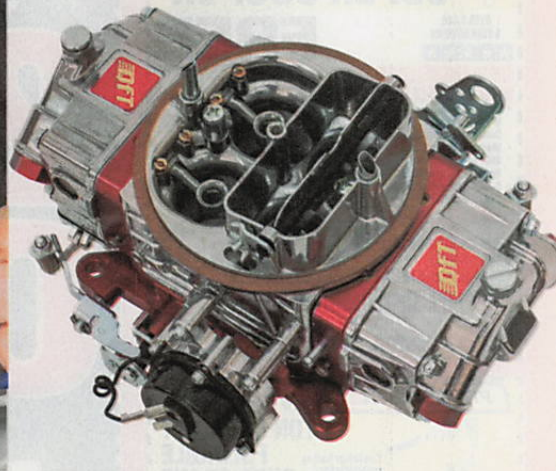
[Use Fel-Pro's 0.250-inch-thick Cork-Lam cork-rubber gasket with steel core to clear the beefy Comp Cams roller rockers. Adjust valve lash to zero preload lash plus 3/4-turn.



[Edelbrock's RPM Air-Gap 351C intake has an under-plenum open space that separates its runners from hot engine oil, resulting in a cooler, denser air/fuel charge. With a 1,500–6,500 rpm operating range, the high-rise dual-plane has a broad, streetable powerband. Port-size profile is 2V, but there's enough flange material to seal old 4V dinosaur heads if you still have some.]



[Sanchez uses Permatex Ultra Black RTV silicone sealer in lieu of physical end seals. "It dries quick, no need to wait for it to skin, and isn't bothered by gas or oil," he explains. "Trial-fit the intake to establish the necessary bead thickness. It should be about double your observed gap: Let's say you have a 0.100-inch gap—then you need about a 0.200-thick bead for the right compressed thickness."]



[As far as we know, Quick Fuel's Super Street-series carbs are the only high-end carb that has high-end changeable everything—including screw-in power-valve restrictions and idle and high-speed air-bleeds—while still retaining an airhorn and adjustable electric choke. A great choice on a high-performance hot rod that still needs to start up in the morning.]

plane intake for its heads, but over the years, at street rpm ranges, we've seen a good dual-plane high-rise such as Edelbrock's Air-Gap series offer the most power under the curve. Fortunately, Edelbrock has one for a 2V Cleveland.

able electric choke. Correctly sized, we've found Quick Fuel's factory calibration is also usually pretty close right out of the box. So, SS-750 carb it is.

Major components locked

in, Sanchez proceeded to final assembly, preparing the engine for a full test and tune session on Westech Performance's SuperFlow dynamometers. Yes, that's plural with an "s." Next time, we'll wring the motor out

on both an engine dyno and a chassis dyno. How much power do you really lose through the drivetrain anyway? And will all this fit under the Mustang's stock flat hood? We'll be back with a full report shortly. **HR**

NO FUELIN' AROUND

For a fuel mixer, we wanted a tuner-friendly, 750-cfm-class, Holley-flanged, 4150-style carb. A double-pumper, mechanical secondary, configuration works well with stick-shift transmissions (Hicks runs a trans-planted T5), but we also wanted ample tuner options available if we needed to tame the Mutha' Thumpr cam's raspy idle. Not just the usual replaceable jets, power valves, and accelerator pump cams and mixtures, but four-corner idle mixture screws, replaceable power-valve restrictions, and changeable idle and high-speed air bleeds as well. This usually points towards Holley's HP or Ultra HP series, but none of these higher-end Holley-branded carbs offer choke provisions, desirable in a street-driven car. However, Holley's Quick Fuel Technology brand does offer Super Street series carbs with the high-end tuning features, a choke tower, and a fully adjust-

MAJOR PARTS AND PRICES (PART 2)

Includes the major parts as described in the story or necessary to perform the repairs. In addition to the specifically listed parts, ARP generously supplied all necessary dress-up hardware. Does not include shipping, miscellaneous small hardware, labor, or sales taxes. Unit quantity for all listed parts is "1 unit." All parts for Part 2 were priced 12/04/2019 at Summit Racing and are subject to change. All dimensions in linear inches, except as noted.

BRAND	PART DESCRIPTION	PART NO.	AMT.	SUMMIT PRICE
ARP	BOLT & WASHER KIT, w/ lubricant, engine cylinder head, Pro Series 8740 steel, 190,000 psi, 12-pt head, 351C/M & 400	254-3704	1	\$125.99
	BOLT & WASHER KIT, intake manifold, 351C w/ Edelbrock RPM Air-Gap, stainless steel, hex head	454-2006	1	\$54.99
	BOLT & WASHER PKG., HHF universal, stainless, 1/4-20 x 1.00, 1/8 hex head, used on retain cast-aluminum valve covers on heads w/ 0.250 thick Fel-Pro gasket (5/pkg., 16 bolts required, shorten to fit*)	621-1000	4	\$43.96
	SEALER & LUBRICANT, fastener threads, PTFE w/ rust & corrosion inhibitor, -30° to 550° F, 1.69 fl-oz tube	100-9904	1	\$9.99
	STUD KIT, carburetor mounting, universal, stainless steel, (4) 1/8-18/24 x 1.700 OL studs, hex nuts, & washers	400-2401	1	\$20.99
AUTOLITE	PLUG, spark, 14mm x 0.750 reach, gasket-seat, 3/8 wrenching element, resistor, copper-core (heat range 4)	3924	8	\$23.92
COMP CAMS	LUBRICANT, Valve Train Assembly, 6oz aerosol can	106	1	\$10.99
	TOOL, pushrod length checking, Hi-Tech, 7.800–8.800 adjustment range	7703-1	1	\$20.99
EDELBROCK	MANIFOLD, engine fuel intake, RPM Air-Gap 351C, dual-plane, 5.020 height, satin finish	7564	1	\$411.95
FEL-PRO	GASKET SET, engine valve rocker arm cover, Cork-Lam cork-rubber w/ steel core, 0.250 thk (2/pkg)	1636	1	\$35.99
	GASKET SET, exhaust header to cylinder head, 1970–1982 351C/M & 400 w/ 2V heads, perforated steel core w/ antistick coating, 1.56 x 1.98 oval ports (2/pkg)	1430	1	\$20.99
	GASKET SET, intake manifold to cylinder head, 1970–1982 351C/M & 400 w/ 2V heads, composite w/ Printoseal, 1.50 x 2.12 rectangle ports, 0.060 thk	1240	1	\$25.99
	GASKET, cylinder head, 351C/M & 400, high-perf steel-core laminate, preflattened steel wire combustion seal, 4.100 bore x 0.041 compressed thk., 9.20cc vol.	1013	2	\$69.98
PERMATEX	SEALER, RTV silicone, Ultra Black (max oil resistance), -65° to 500° F intermittent; 3.35oz tube (for intake end seals)	82180	1	\$5.99
QUICK FUEL	CARBURETOR, SS-series, mechanical secondaries, 750 cfm (1.375 venturi x 1 1/8 throttle-bore), electric choke, changeable air bleeds, 3.250 height (inc. mounting gasket)	SS-750	1	\$594.86
TFS	GUIDE PKG., engine valve pushrod, for 3/8 od pushrods (8/pkg)	TFS-51600624	1	\$46.99
	HEAD ASY., engine cylinder, aluminum, PowerPort Cleveland 225, CNC competition-ported runners, 225cc intake runners, 60cc chambers, 2.080/1.600 valves, 1.550 dual springs w/ titanium retainers	TFS-5161T004-C01	2	\$2,689.98
	ROD KIT, engine valve push, chromoly steel, 3/8 od x 8.100 OL x 0.080 wall (8/pkg)	TFS-21418100-8	2	\$137.98

*Sanchez: "Shorten end and rechanfer as needed to avoid bottoming out in the bolt-hole. The next shorter available ARP universal bulk-pack bolt size (1/4-20 x 3/4) was too short, and none of ARP's dedicated valve-cover bolt kits proved to be the right length, either."

A. TOTAL PART 2 (ABOVE)	\$4,352.52
B. TOTAL PART 1 (APRIL 2020)	\$1,752.28
C. GRAND TOTAL SO FAR (A+B)	\$6,104.80

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SUPER BRIGHT LED/SMO WORK LIGHT/FLASHLIGHT

- Super-Strong, Ultra-Lightweight Composite Plastic
- Magnetic Base & 360° Swivel Hook for Hands-Free Operation
- 3 AAA Batteries (Included)
- 144 Lumens

ALL IN A SINGLE SUPER POWERFUL LIGHT

ITEM 69567/63878
63991/64005
60566/63601/67227 shown

COMPARE TO PERFORMANCE TOOL MODEL: W2364 **\$13.52**

11773655

Cannot be used with other discounts or prior purchases. Original coupon must be presented. Valid through 5/6/20 while supplies last. Limit 1 FREE GIFT per customer per day.

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1 TON CAPACITY FOLDABLE SHOP CRANE

Customer Rating **★★★★★**

- Boom extends from 34" to 45"
- Crane height adjusts from 69-5/8" to 82"

NOW \$139.99

SAVE \$90 **\$189.99**

COMPARE TO \$229.99
GOPLUS MODEL: GP-101040150

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11785154

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HaulMaster SUPER COUPON

72" x 80" MOVING BLANKET

Customer Rating **★★★★★**

NOW \$5.99

COMPARE TO BLUE HAWK \$19.99
MODEL: 77230

SAVE 70% **\$8.99**

ITEM 69505/62418/66537 shown

11788953

LIMIT 5 - Coupon valid through 5/6/20

PITTSBURGH SUPER COUPON

18 PIECE SAE AND METRIC T-HANDLE BALL END HEX KEY SET

LIFETIME WARRANTY

Customer Rating **★★★★★**

NOW \$12.99

COMPARE TO HUSKY MODEL: HTHKSM14PCN **\$32.10**

SAVE 59% **\$16.99**

ITEM 63167/62476/63166/96645 shown

11803091

LIMIT 3 - Coupon valid through 5/6/20

CENTRAL PNEUMATIC SUPER COUPON

3/8" x 50 FT. RETRACTABLE AIR HOSE REEL

Customer Rating **★★★★★**

NOW \$59.99

COMPARE TO KOBALT MODEL: SGV-AIR184 **\$99**

SAVE \$39 **\$79.99**

ITEM 69265/62344/64685/93897 shown

11830906

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20% OFF ANY SINGLE ITEM*

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11777100

BRAUN SUPER COUPON

5000 LUMEN 4 FT. LED HANGING SHOP LIGHT

Customer Rating **★★★★★**

- 30,000 hour LED life
- 46-3/8" wide with 5000 lumens diffuse light to cover your whole work area
- Lightweight design - just 1.75 lbs. - can be installed just about anywhere

SAVE 33%

NOW \$19.99

COMPARE TO \$29.99

ITEM 64410

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PREDATOR SUPER COUPON

9000 WATT MAX. STARTING EXTRA LONG LIFE GAS POWERED GENERATOR • 13 hour run time

ITEM 63971/63970 shown

ITEM 63968/63969 CALIFORNIA ONLY

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COMPARE TO HONDA MODEL: EM6500SXK2AT **\$2,789**

SAVE **\$2,189**

Wheel kit and battery sold separately.

11815462

LIMIT 1 - Coupon valid through 5/6/20

drillmaster SUPER COUPON

4-1/2" ANGLE GRINDER

Customer Rating **★★★★★**

NOW \$9.99

COMPARE TO PERFORMAX MODEL: 2411-1 **\$17.99**

SAVE 44% **\$14.99**

ITEM 69645/60625 shown

11834805

LIMIT 4 - Coupon valid through 5/6/20

McGRAW SUPER COUPON

Ideal for Impact Wrench, Finish & Brad Nailers, Stapling, All Purpose Spray Gun & Blow Guns

20 GALLON, 135 PSI OIL-LUBE AIR COMPRESSOR

Customer Rating **★★★★★**

Handle and Protective Shroud

Powerful Induction Motor "Won't trip your breaker"

Easy Access Drain Valve

135 MAX PSI
1.6 Running HP
4.0 SCFM
Oil Lube Pump

2x LIFE
25% QUIETER
27% MORE RUN TIME

Large Rubber Wheels

Rubber Foot Stabilizers

NOW \$174.99

COMPARE TO PORTER-CABLE MODEL: 119B03799 **\$249.99**

ITEM 56241/64857 shown

11778993

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CHICAGO ELECTRIC WELDING SUPER COUPON

FLUX 125 WELDER

Customer Rating **★★★★★**

NOW \$99.99

COMPARE TO IRONTON MODEL: 45433 **\$179.99**

SAVE \$80

ITEM 63583/63582 shown

11793354

LIMIT 2 - Coupon valid through 5/6/20

BETTER TITANIUM

EASY FLUX 125 WELDER

Customer Rating **★★★★★**

NOW \$179.99

COMPARE TO LINCOLN ELECTRIC MODEL: K2513-1 **\$439**

SAVE \$259

ITEM 56359/56355 shown

11801707

LIMIT 1 - Coupon valid through 5/6/20

GOOD	BETTER
Standard Performance	Professional Performance
FLUX 125 WELDER	EASY FLUX 125 WELDER
Customer Rating ★★★★★	Customer Rating ★★★★★
120 VOLT INPUT	VARIABLE CONTROL EASY TO USE
HIGH OR LOW	DC
AC	CLEAN WELDS
VOLTAGE CONTROL	ADVANCED INVERTER
OUTPUT	POWERFUL & EFFICIENT
CONVENTIONAL TRANSFORMER	90 AMP @ 30%
TECHNOLOGY	LONGER RUN TIME
90 AMP @ 20%	15 LBS.
DUTY CYCLE	LIGHT & COMPACT
32 LBS.	
WEIGHT	

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29 PIECE TITANIUM DRILL BIT SET

Customer Rating **★★★★★**

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COMPARE TO DEWALT MODEL: DW1369 **\$68.14**

SAVE 83% **\$18.99**

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11817440

LIMIT 3 - Coupon valid through 5/6/20

CHICAGO ELECTRIC WELDING SUPER COUPON

MIG/FLUX WELDING CART

Customer Rating **★★★★★**

NOW \$29.99

COMPARE TO FORNEY MODEL: 117535099 **\$99.99**

SAVE \$70 **\$39.99**

Welders, tools & supplies sold separately.

ITEM 61316/131/60790/69340 shown

11818198

LIMIT 2 - Coupon valid through 5/6/20

PITTSBURGH SUPER COUPON

PNEUMATIC ADJUSTABLE ROLLER SEAT

Customer Rating **★★★★★**

NOW \$19.99

COMPARE TO DURALAST MODEL: TR6201C **\$69.99**

SAVE 71% **\$26.99**

ITEM 61160/63456/46319 shown

11837532

LIMIT 4 - Coupon valid through 5/6/20

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4 PIECE ANTI-FATIGUE FOAM MAT SET

Customer Rating **★★★★★**

Each pad measures 25" x 25"

NOW \$6.99

COMPARE TO NORSK MODEL: 001119346 **\$19.99**

SAVE 65% **\$8.99**

ITEM 40187/61607/62389 94635 shown

11852994

LIMIT 4 - Coupon valid through 5/6/20

U.S. GENERAL **SUPER COUPON**

56" x 22" DOUBLE BANK EXTRA DEEP CABINETS

- 21,500 cu. in. of storage
- 4400 lb. capacity
- Weighs 383 lbs.
- High capacity, full extension ball bearing drawer slides with double sides on large drawers
- All welded steel construction
- Industrial powder coated finish resists rust

Customer Rating **★★★★★**

COMPARE TO **\$3,745**
SNAP-ON MODEL: KRA5311FPB0

SAVE \$3,085

NOW \$659.99

Item 64864, 64458, 64165, 56110, 56111, 56112

Item 64864, 64458, 64165, 56110, 56111, 56112

Item 64864, 64458, 64165, 56110, 56111, 56112

EARTHQUAKE XT **SUPER COUPON**

20V LITHIUM-ION EXTREME TORQUE IMPACT WRENCH KITS

A. 1/2" ITEM 63537/64195 63852 shown

B. WITH 2" ANVIL ITEM 64349

Customer Rating **★★★★★**

1200 TORQUE FT. LBS. BOLT BREAKAWAY

COMPARE TO **\$534.45**
INGERSOLL RAND MODEL: W7250-K2

SAVE \$304

NOW \$229.99

Item 63537, 64195, 63852, 64349

BRAUN **SUPER COUPON**

390 LUMEN MAGNETIC SLIM BAR LED WORK LIGHT

Customer Rating **★★★★★**

NOW \$24.99

COMPARE TO \$55.12
ASTRO MODEL: 40SL

SAVE 54%

Item 56248/56329/63958 shown

Item 56248/56329/63958 shown

PITTSBURGH **SUPER COUPON**

RAPID PUMP® 1.5 TON LIGHTWEIGHT ALUMINUM FLOOR JACK • Weighs 33 lbs.

Customer Rating **★★★★★**

SAVE \$91

NOW \$59.99

COMPARE TO **\$151.42**
K TOOL MODEL: KT163094

Item 64552/64832/64980/64545 shown

HARDY **SUPER COUPON**

MECHANICS GLOVES

Customer Rating **★★★★★**

AVAIL. IN SM, MED, LG, XL, XXL

NOW \$4.99

SAVE 66%

COMPARE TO \$14.99
VALEO MODEL: 25521

Item 62434, 62426, 62433, 62432, 62429, 64179, 62428, 64178 shown

ZURICH **SUPER COUPON**

OBD2 CODE READER WITH ABS ZR11

Customer Rating **★★★★★**

NOW \$109.99

SAVE \$60

COMPARE TO \$169.99
BOSCH MODEL: OBD1150

Item 63807

CENTECH **SUPER COUPON**

2/10/50 AMP, 12 VOLT BATTERY CHARGER AND ENGINE STARTER

Customer Rating **★★★★★**

NOW \$29.99

SAVE 49%

COMPARE TO \$59.77
SCHUMACHER ELECTRIC MODEL: SE-1250

Item 60581/3418 60653 shown

PITTSBURGH **SUPER COUPON**

2000 LB. CAPACITY FOLDABLE ENGINE STAND

Customer Rating **★★★★★**

NOW \$109.99

SAVE \$110

COMPARE TO \$219.99
STRONGWAY MODEL: 47032

Item 69521/69522 shown

CHICAGO ELECTRIC **SUPER COUPON**

BLUE DESIGN AUTO-DARKENING WELDING HELMET

Customer Rating **★★★★★**

NOW \$39.99

COMPARE TO \$124.99
HOBART MODEL: 32453

Item 61610/63122/91214 shown

drillmaster **SUPER COUPON**

7" VARIABLE SPEED POLISHER/SANDER

Customer Rating **★★★★★**

NOW \$29.99

SAVE 62%

COMPARE TO \$79.99
GENESIS MODEL: GSP1711

Item 62861/60626 shown

PITTSBURGH **SUPER COUPON**

130 PIECE TOOL KIT WITH CASE

SAE AND METRIC

Customer Rating **★★★★★**

NOW \$29.99

COMPARE TO \$66.39
ANVIL MODEL: A137B05

Item 68998/63248/64080/64263/63091 shown

HaulMaster **SUPER COUPON**

18" WORKING PLATFORM STEP STOOL

Customer Rating **★★★★★**

• 350 lb. capacity

NOW \$19.99

COMPARE TO \$39.99
NEOCRAFT MODEL: 60635

Item 62515/66911 shown

CENTRAL MACHINERY **SUPER COUPON**

4" x 36" BELT/6" DISC SANDER

Customer Rating **★★★★★**

NOW \$64.99

COMPARE TO \$77.99

SAVE \$84

COMPARE TO RYOBI \$149
MODEL: BD4601G

Item 5154/64778/97181 shown

HaulMaster **SUPER COUPON**

30" x 18" HARDWOOD DOLLY

• 1000 lb. capacity

Customer Rating **★★★★★**

NOW \$11.99

COMPARE TO \$15.99

COMPARE TO MILWAUKEE \$19.97
MODEL: 33700

Item 38970/92486/39757/60496/62398/61897 shown

PITTSBURGH **SUPER COUPON**

6 TON HEAVY DUTY STEEL JACK STANDS

Customer Rating **★★★★★**

NOW \$34.99

COMPARE TO \$55.87
K TOOL MODEL: KT161295

Item 38847/69596/62393/61197 shown

PITTSBURGH PRO **SUPER COUPON**

1/2" DRIVE 25" BREAKER BAR

Customer Rating **★★★★★**

• Chrome vanadium steel construction

• Head swivels 180°

• Polished finish

LIFETIME WARRANTY

NOW \$8.99

COMPARE TO \$23.99
DURALAST MODEL: 72-121

Item 60819/67933 shown

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At Harbor Freight Tools, the "Compare to" price means that the specified comparison, which is an item with the same or similar function, was advertised for sale at or above the "Compare to" price by another national retailer in the U.S. within the past 90 days. Prices advertised by others may vary by location. No other meaning of "Compare to" should be implied. For more information, go to HarborFreight.com or see store associate.

DAYTONA **SUPER COUPON**

RAPID PUMP® 3 TON STEEL PROFESSIONAL DUTY FLOOR JACKS

• Weighs 70 lbs.

COMPARE TO HEIN WERNER \$499.99
MODEL: HW3652

SAVE \$400

ITEM 64783, 64200, 64779

12038670

LIMIT 2 - Coupon valid through 5/6/20*

Customer Rating ★★★★★

AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASME
PASS
COMPLIANT
MECHANICAL ENGINEERS

YOUR CHOICE OF COLOR: **\$99.99**

\$129.99

SUPER COUPON

7 FT. 4" x 9 FT. 6" ALL PURPOSE/WEATHER RESISTANT TARP

Customer Rating ★★★★★

COMPARE TO BLUE HAWK \$878
MODEL: BG8X10-Y

SAVE 65%

NOW \$299

ITEM 69115/69121/69129/69137/69249/877 shown

12043844

LIMIT 5 - Coupon valid through 5/6/20*

PREDATOR **SUPER COUPON**

Customer Rating ★★★★★

2000 WATT SUPER QUIET INVERTER GENERATOR

• 12 hour run time

NOW \$449.99

\$499.99

COMPARE TO HONDA \$1,009
MODEL: EU2000I

SAVE \$559

ITEM 62523

12045297

LIMIT 1 - Coupon valid through 5/6/20*

CENTRAL PNEUMATIC **SUPER COUPON**

29 GALLON, 150 PSI VERTICAL OIL-LUBE AIR COMPRESSOR

Customer Rating ★★★★★

NOW \$359.99

\$379.99

• Air delivery: 5.9 SCFM @ 90 PSI

SAVE \$40

COMPARE TO EASTWOOD \$399.99
MODEL: 31915

ITEM 62765/61489 shown

12051757

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TYPE SAE 69043/63282/42304
METRIC 69044/63171/42305

12081342

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Customer Rating ★★★★★

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Customer Rating ★★★★★

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Alexander Wesley Asks...

What's Available for Swapping a 5.7L Gen III Chrysler Hemi into a 1984 Chrysler M-Body?

✉ Marlan Davis 📷 Marlan Davis,
& HOT ROD Archives

Q:

I keep hearing about putting a 5.7L Gen III Hemi into a K-body, but what about an M-body? Is there no info on that? I would like to find the difficulties of putting one of these engines in a 1984 Chrysler Fifth Avenue that has a 318 "LA" small-block in it now.

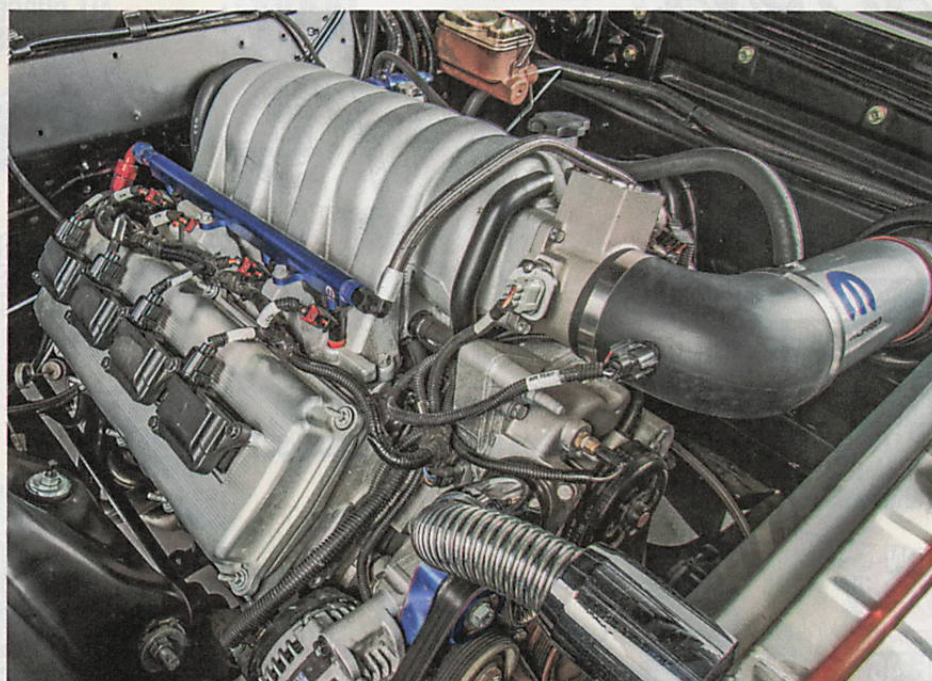
Alexander Wesley
Via email

A:

The K-platform refers to Chrysler's FWD (front-wheel-drive) econoboxes with transverse engines and transaxles made from 1981 through 1989. Converting a K-car to a V8 (any V8, not just a Hemi) requires replacing the complete drivetrain with a longitudinally-mounted engine, conventional transmission, and separate RWD (rear-wheel-drive) rearend. Basically, keep the body shell and ax most everything else. The result is a drag car, or what some call a Pro Street-style muscle car. Not an easy job for the newbie hot rodder!

Your M-body is a midsize, RWD chassis that first appeared in 1977. The 1982–1989 Chrysler Fifth Avenue is one member of this long-lived family, which is also closely related to 1973- and later Chrysler A, B, C, F, and J-bodies in terms of engine/drivetrain layout. Stock engine choices for the 1984 Fifth Avenue were either the 225 Slant Six or 318 V8, both shifted by an automatic trans. Most came with a 900-series (A904/998/999) TorqueFlite and 7¼ rearend. Some police cars and taxis stepped up to the A727 TorqueFlite and 8¼ rearend.

Mechanically, engine swaps into the existing chassis are straightforward compared to converting a FWD K-body, but—as with any late-model EFI engine swap regardless of manufacturer—the electrical and electronic components are where things may get tricky. Solutions are available—with more and more parts available every day to ease late-Hemi retrofits into earlier Chryslers. Here, I can only provide general information because there are many unknowns:



What year Hemi? Do you have to meet emissions? What engine-driven accessories do you need? Will you retain the front torsion-bar suspension, or go with a rack-and-pinion steering conversion and coilovers? Do you want to use a late-model electronic trans that came stock behind the Hemi, or retain the Fifth Avenue's legacy TorqueFlite? Will this be a daily driver, a cruise night special, or bracket racer?

[Swapping the 2003-and-later Chrysler Gen III Hemi has really taken off in the last few years. This is a Mopar Performance 426 crate Gen III Hemi engine in Kenny Wayne Shepherd's 1964 B-body Dodge 330, Bluesmobile. The mechanics of retrofitting the modern Hemi into Chryslers with torsion-bar front suspensions is surprisingly similar across all model lines.]



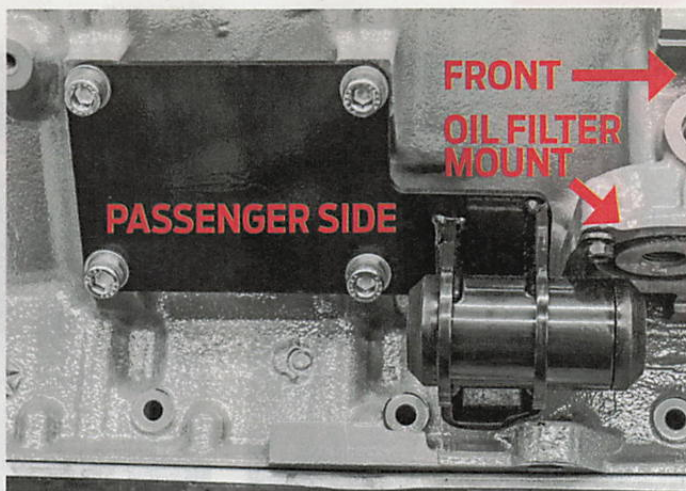
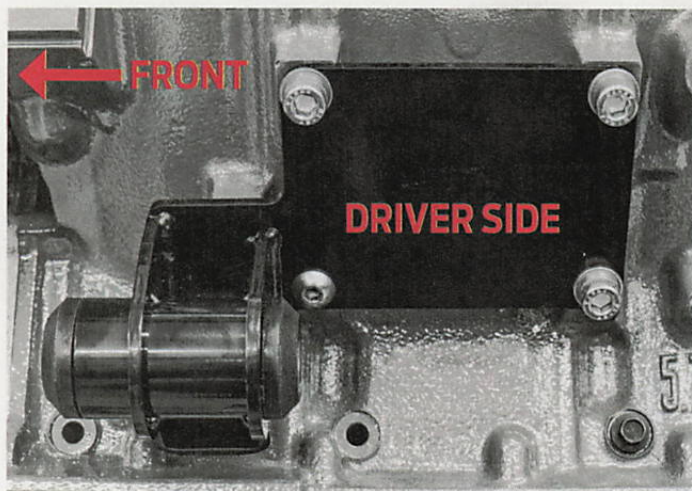
Once you have more information Diversified Creations/Shop Hemi, Mancini, Schumacher, Bouchillon, TTI, and HotwireAuto can provide more specific information than the basics provided here. Bouchillon is one source for an all-in-one kit custom tailored to your needs. Diversified Creations can handle the complete swap in-house if desired. Bouchillon and Shop Hemi reflash stock computers.

Any engine swap starts with a good set of engine

[Bottom-up view of Shepherd's Bluesmobile reveals common characteristics of many classic Mopar late-Hemi retrofits: a mid-ump Milodon oil pan (most often, PN 31000), TTI conversion headers, and a traditional TorqueFlite auto trans—in this case, a beefy A727. Typical problems encountered on many late-Hemi retrofits include steering box, oil filter, and starter clearance issues.]

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Please provide a daytime phone number so we can contact you for more information if necessary. Questions will be answered in the print edition or on HotRod.com.

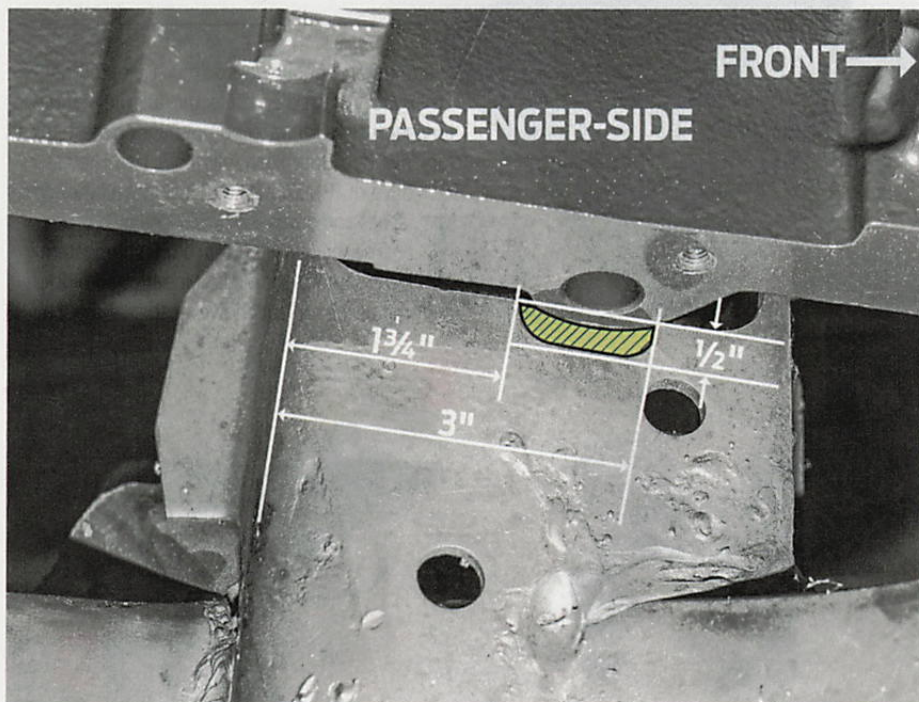
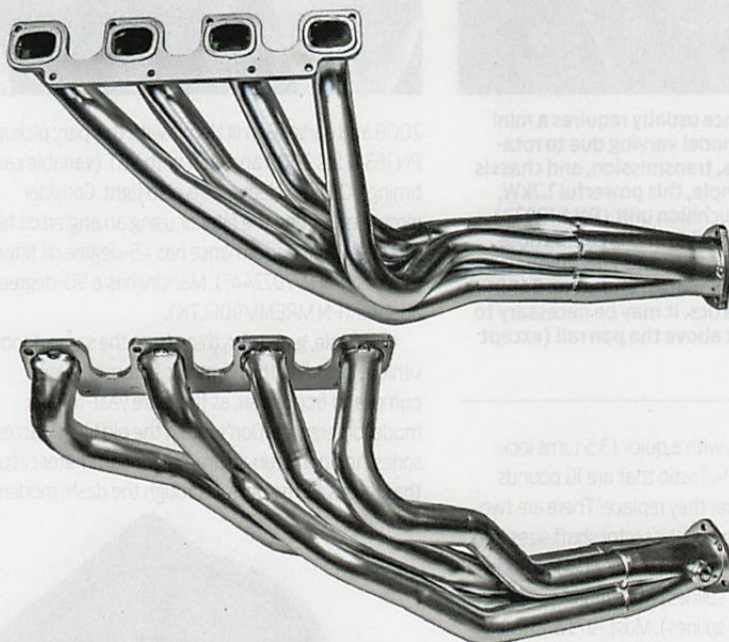


[Schumacher mounts are available to bolt modern Hemis into most classic RWD Mopars. They bolt to a V8 K-member's existing mount perches. Mount kit A73H8 fits 1973—and later A, B, C, F, M, and J-bodies. Notice how close the passenger-side mounts get to the oil filter mounting pad.]

mounts. They're available for your chassis through Schumacher, Mancini, TTI (Tube Technologies), and others. Typically these are spool-mount configurations that install the new Hemi in the same position as the original V8 engine, slightly offset to the passenger side. Current mount kits fit V8 K-members, although Schumacher says mounts to install a late Hemi onto original 6-cylinder K-members are coming later in 2020.

Gen III Hemi car and truck engines are about 3½ to 5½ inches wider, respectively, than a legacy 318. Your stock power brake booster may not clear the Hemi valve covers. Consider a downsized vacuum mini-booster (although in my opinion they're often marginal) or moving up to a hydro-boost or even an electric power-brake system. ABS is one source for either system, but as no dedicated Chrysler kit is available you may have to piece it together from individual components.

Mid-2000s Jeep Grand Cherokee SRT log-type exhaust manifolds offer the most clearance of any



[Depending on the platform's K-member width, it may be necessary to notch the passenger-side mount perch as shown to clear a protrusion on the oil pan rail.]

[TTI offers late-Hemi swap headers. Although not specifically listed for M-bodies, right now TTI's Sam Davis recommends PN 61HC (1¾-inch primaries) with stock torsion bars and downsized Borgeson power steering units.]

production-based exhaust system. Mopar Performance sells both right and left manifolds along with heat shields, gaskets, and bolts as a kit (PN 77072462). In headers, Schumacher likes TTI's 61WP series, which it says has the best chance of clearing full-size stock power steering boxes with its mounts, assuming use of a legacy trans and left-hand-mount starter. There are no guarantees if using a late-style OE Chrysler trans, some of which (such as the NAG) also require a right-hand starter. All Gen III Hemi blocks come dual-drilled and can mount the starter on either the left (driver) or right (passenger) sides, but they still need to match the trans. Aftermarket mini starters obviously have more clearance compared to production stockers.

Power steering box and steering-column clearance is another tight area. If the headers hit the box, Borgeson sells Mopar-centric, small-envelope,

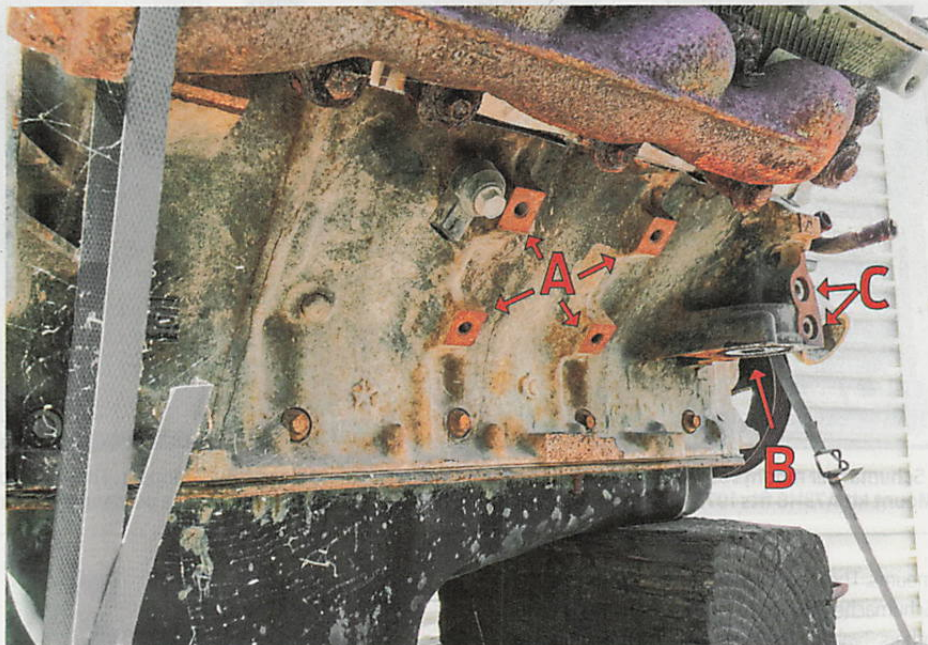


[TTI header clearance usually requires a mini starter, the exact model varying due to rotational torque needs, transmission, and chassis clearance. For example, this powerful 1.7kW, 10-tooth pinion Bouchillon unit (PN 61R272) mounts on the driver side and is compatible with TK0500/600, A833, and T56 manuals; A727 and A518 TorqueFlites; and some 545RFE late-model automatics. It may be necessary to clearance the block above the pan rail (except 545RFE).

power steering boxes with a quick (3.5 turns lock-to-lock), high-effort, 14:1 ratio that are 10 pounds lighter than the stocker they replace. There are two different Chrysler steering box sector shaft sizes and corresponding pitman arms: "small" (1½ inch-od x 32 splines x 4 master splines) and "large" (1¼ inch x 32 splines x 4 master splines). Most 1973 and later Mopar boxes require the large-spline box (Borgeson PN 800127). It may be necessary to slightly shim the Borgeson box to achieve optimum alignment with the original steering column. According to Schumacher, "Column-shift cars must notch the steering column for valve cover clearance."

OE car front-sump, or truck rear-sump Hemi oil pans won't clear legacy chassis. Use a mid-sump design instead. Officially listed for 1963–1974 chassis, Milodon PN 31000 should also work on an M-body. Use Milodon oil pump pickup and screen PN 18331 for

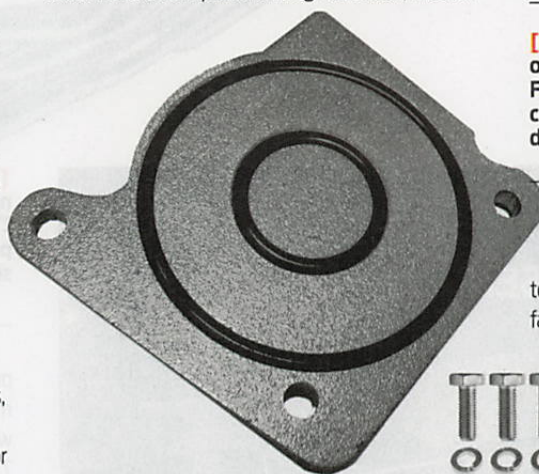
[Right: Gen III Hemi with headers may hit the stock power steering box. Borgeson's compact power steering box is much smaller and 10 pounds lighter than the standard Chrysler unit (A). It bolts directly to stock K-frames and pitman arms. "Large-spline" versions fit 1973 and later models. Bergman Auto Craft sells a kit with the large-spline box plus an OE steering column coupler (B) under its PN 2278 (SKU 5-2003).



2008 and earlier Gen III Hemis with this pan; pickup PN 18341 fits 2009 and later with VCT (variable cam timing). Oil filter clearance is also tight. Consider remote mounting the filter or using an angled oil filter mount. Mopar Performance has 45-degree oil filter mounts (PN P77072447). Mancini has a 90-degree adapter (PN MREMM90FLTK).

If possible, grab everything from the same donor vehicle, including the harmonic balancer, water pump, and front cover, as there are year-to-year model differences. Don't retain the old legacy accessories, and don't run an ammeter or ammeter circuit that routes all the power through the dash; modern

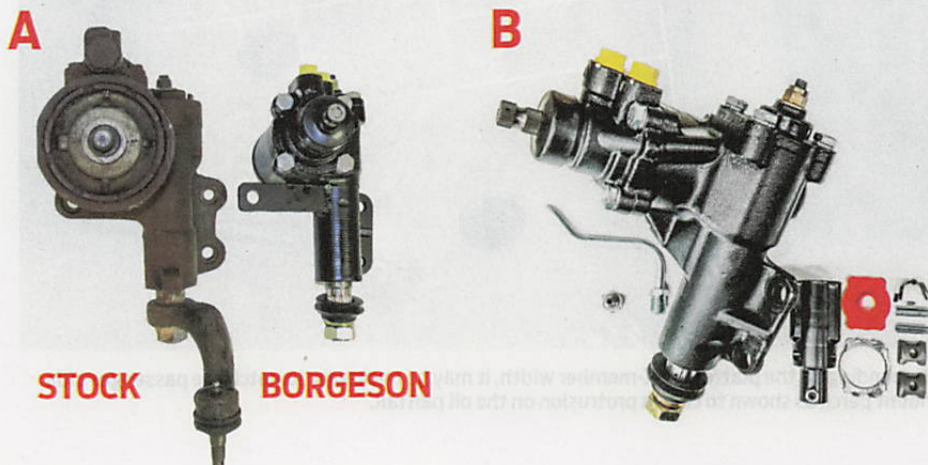
[Above: The Gen III Hemi engine mounts' four-bolt pattern (A) is different from older Chrysler engines. The Hemi's passenger-side mount hole location is also further rearward. This engine's rear sump pan indicates it came from a truck; cars have front sump pans. A block-mounted oil filter (B) may hit old K-members, and/or interfere with conversion engine mounts. Hoses for a remote oil filter can connect directly to the two pipe-thread holes (C) located just ahead of the filter mount pad.



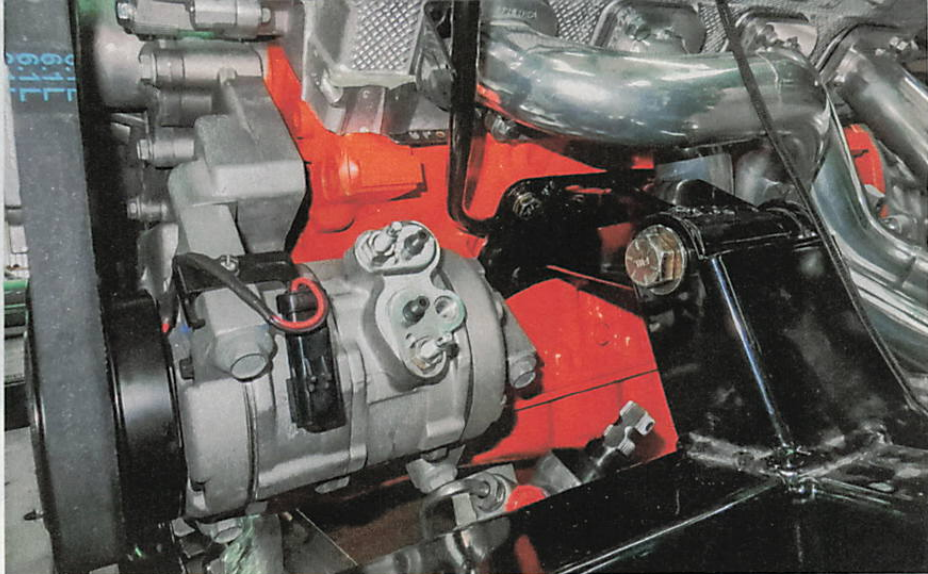
[Left: Remote-mount the oil filter using TTI's oil filter mount-pad block-off cover-plate (PN FBP5761). It has no hose fittings because you can run external hoses and adapter fittings directly into the block.

alternators put out way too much juice for that marginal wiring scheme. Electric fans are mandatory because Hemi water pumps have no mechanical fan drive-hub. Bouchillon sells a 5.7L Hemi accessory drive kit (PN 57FKIT) that includes all the accessories and drives.

The modern Hemi rear block bolt-pattern is the same as the old LA Mopar small-block, minus the top bolt; however, there's about a

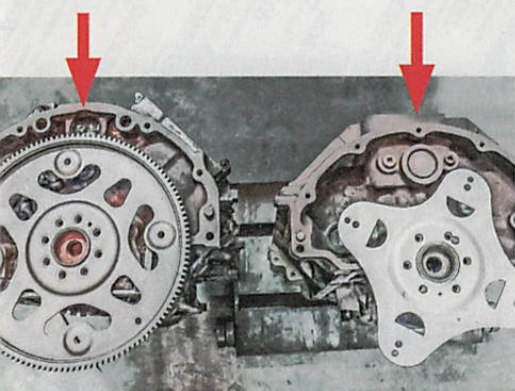


[Seen at Bouchillon Performance, this 6.1L Gen III is going into an E-body Challenger using TTI headers and an AlterKation suspension. It has "car-type" front drives with the low-mount alternator and A/C compressor. Even with rack-and-pinion steering and coilovers, K-member clearance remains tight. Truck drives mount the alternator up high—more K-member clearance, but less hood clearance. Measure, cut, try.



0.090-inch difference in crank offset relative to the rear block face. Because of the slightly different crank offset, Shop Hemi's Mike Copeland says to make sure a legacy transmission's torque converter hub or manual transmission's pilot shaft doesn't bottom-out in the pilot hole; ideally, there should be about 1/8-inch post-installation free-play after snugging everything up. Also make sure the trans torque converter pilot hub centers within the pilot hole. With the preceding caveats, a legacy TorqueFlite bolts up to the Hemi block using available aftermarket conversion flexplates. Keeping the existing A904 eliminates the need for crossmember mods, driveshaft shortening, floorpan mods for clearance, or installing the different shifters needed with a late-model trans. A legacy A727 does require driveshaft shortening and a different yoke, though it still clears the floorpan.

Alternatively, you can grab both the Hemi and its late-model trans, preferably from the same model and year, out of the wrecking yard. Automatic transmissions that came stock behind Hemis include the 2003-2010 545RFE five-speed, 2005-2014 NAG1 five-speed, or 2015—and later 8HP70/8HP90/8HP95 eight-speed. Making these all-electronic, high-tech transmissions work is complex: To get the car to shift, you'll need a complimentary team including



[The rear block-face bolt pattern and dowel-pin locations on the Gen III Hemi (left) are nearly the same as an LA small-block (right), except the Hemi has no bolt-hole at 12 o'clock (arrows). Gen III Hemis use an eight-bolt, neutral-balance, flexplate with (in stock apps) an attached ring gear. LA small-block flexplates use a six-bolt mounting pattern and flexplates with no ring gear (it's on the torque converter). Crank pilot hole dimensions are the same.

an engine computer, a transmission computer, the ABS computer with associated wheel speed inputs, a factory shifter, and a front control module. Hot-wireAuto is the place to go for Chrysler electronic/EFI wiring harnesses, and in most cases, it can supply any missing sensors and computer parts. "We can pretty much do anything once you've decided on a



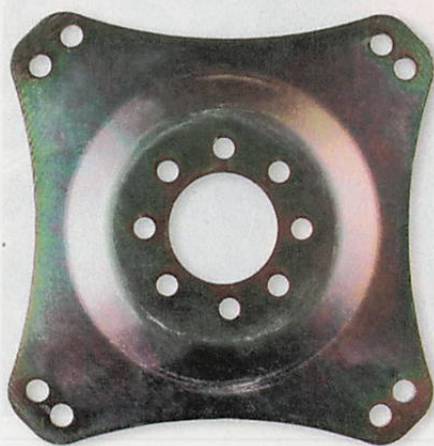
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[Correct-offset flexplates for mating legacy TorqueFlites to the Gen III Hemi that are drilled with the Hemi crank hub's 8-bolt mounting-pattern and both small and large torque converter mounting patterns are available from Mopar Performance (PN P5153753), ATI (PN 915685), Hays (PN 40-518, shown), Mancini (PN MRE5153733), and others. Also needed is a neutral-balance torque converter with attached ring gear.



[For custom hot rod installs, aftermarket EFI systems like Holley's Terminator X are a viable alternative to hard-to-reprogram Hemi factory ECUs. Terminator X's modular nature accepts plug-in add-ons that, for example, permit running an EFI Hemi coupled to GM's versatile 4L60E/4L65E/4L70E automatic transmissions. Late-model Chrysler transmissions generally require running multiple OE computers and interfacing them together.



specific engine, trans, and chassis. We need to know specifics about the 'target' to make sure everything works together."

To manage only the engine with a legacy trans, just about any production Hemi computer works except a Hellcat unit. The easiest OE computer to work with is out of a 2005 Ram truck, which after a reflash is compatible with any 2003–2008 Hemi backed up by a legacy trans. Generally, 2006 and later production Hemis have built-in anti-theft systems which must be programmed out of the computer to make them work in a retrofit app. On a Hemi running Chrysler computers and software, and if the car still has analog gauges, a VSS (Vehicle Speed Sensor) isn't critical for running the engine computer as it is on GM swaps, simplifying legacy trans retention.

Speaking of the General, another alternative is to run a GM 4L60E or the much larger 4L80 trans using an adapter plate and hybrid flexplate. ATI is one source for a complete kit (PN 91245). This would be for a one-piece-case 4L60E; ATI says the more plentiful 4L60E varieties with separate "bolt-on bells" don't work. The benefit of a 4L60E and derivatives is that it generally clears the floorpan, unlike Chrysler's later-model overdrives. Electronically, you'll need an aftermarket EFI system plus a GM-type standalone trans controller. Holley is one source. Wilcap has a kit for bolting up traditional Chevy auto trans: PN 57L-350CHEVYAT (the BOP pattern is a special-order option).

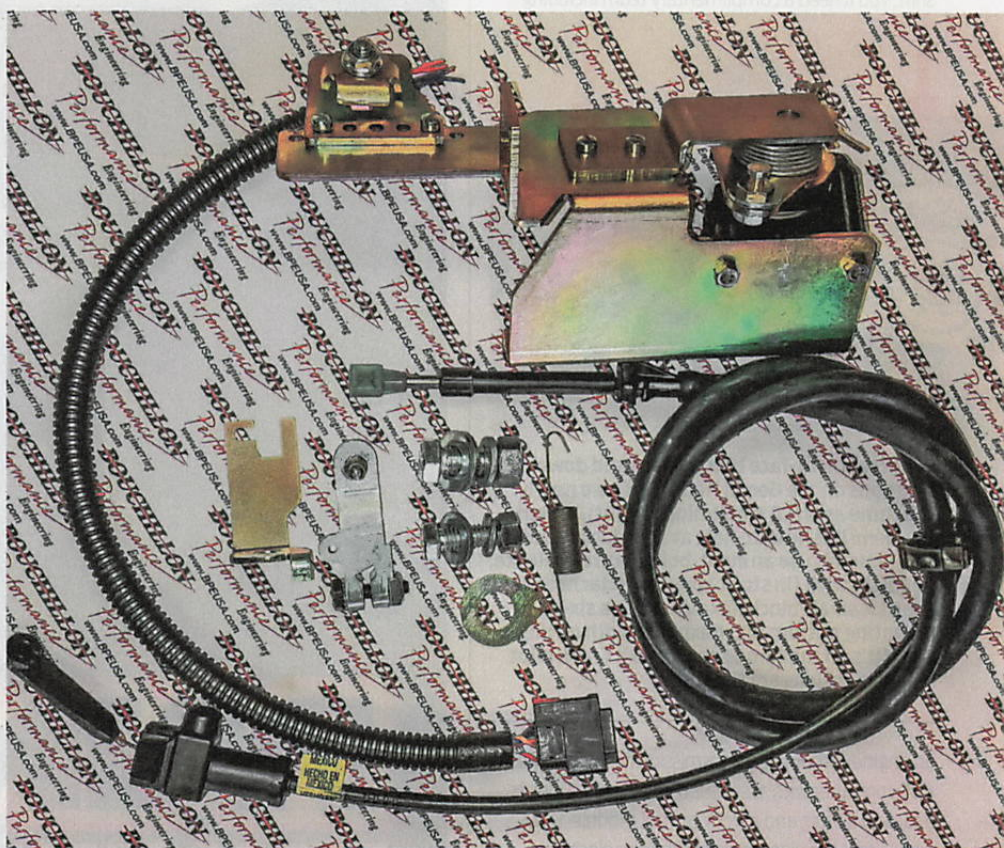
In production, Gen III Hemis use drive-by-wire (DBW) throttle-bodies. This requires a corresponding DBW throttle-pedal. There are three different styles; HotwireAuto says any work. Most all 2003 Dodge Ram trucks and 2004 5.7L trucks came with a separate DBW box and a bellcrank pedal that may—assuming you can find one—solve clearance problems on older cars if they lack under-dash space to accommodate all-in-one DBW pedals.

Alternatively, Mancini offers modded BBK 80mm and 85mm cable-driven throttle-bodies that are compatible with Dodge sensors but not necessarily all OEM computers.

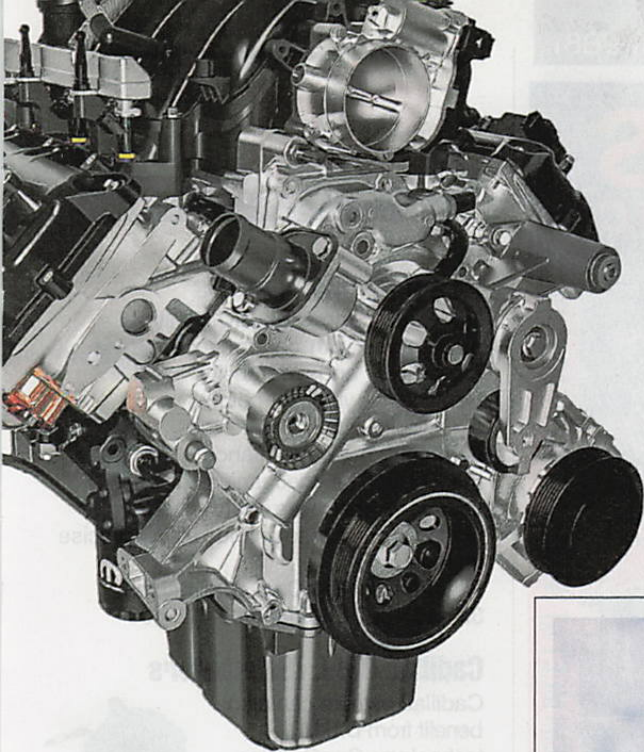
The Hemi factory EFI system requires 58 psi of fuel pressure. In-tank fuel pumps are preferable to inline pumps, but proper internal tank baffling is

mandatory to prevent starving the pickup as the fuel level drops. Rock Valley builds custom tanks for in-tank pumps, or mod the stock gas tank to accept Aeromotive's in-tank Phantom fuel system module.

So far, we've assumed you're grabbing the motor (and maybe its complementary late trans) from the wrecking yard. There is an alternative: Chrysler's



[A legacy Chrysler TorqueFlite needs a mechanical kickdown cable for proper function. Bouchillon offers a 1962- and later TorqueFlite throttle-pressure and cable system (PN BPE F33255) that works with factory Hemi DBW (cableless) throttle bodies.



Mopar Performance, Chrysler's performance parts program, offers a whole lineup of Hemi Gen III crate motors, plus additional parts and kits for retrofit use. This is the 383hp "entry-level" 345ci (5.7L) version—\$5,656.99 at Summit (as of December 2019).

Mopar Performance program offers a range of brand-new Gen III Hemi crate motors, ranging from a "mild" 5.7L (345ci) engine rated at 383 hp and 417 lb-ft (PN 68303088AA) all the way up to its ultimate supercharged Hellephant 426ci crate engine (P5160194) that's rated at 1,000 hp and 950 lb-ft. After selecting the core crate engine, there's a choice of complementary accessory drive systems and matching computers, which differ between the engine packages. The matching computers are "unlocked" for legacy performance use. Worth checking out if you have the bucks. **HP**

Sources:

A&A TRANSMISSIONS; Camby, IN; 317.831.3066;
AandAtrans.com

ABS POWER BRAKE INC.; Orange, CA; 714.771.6549;
ABSpowerBrake.com

AEROMOTIVE INC.; Lenexa, KS; 913.647.7300;
AeromotiveInc.com

ALTERKTION (REILLY MOTORSPORTS INC.); White Haven, PA; 800.474.1534; reillymotorsports.com

ATI PERFORMANCE PRODUCTS INC.; Gwynn Oak, MD; 877.298.5039 (orders) or 410.298.4343 (tech);
atiracing.com

BERGMAN AUTO CRAFT; Huntington, NY; 516.384.6438;
bergmanautocraft.com

BORGESON UNIVERSAL CO.; Travelers Rest, SC; 860.482.8283; borgeson.com

BOUCHILLON PERFORMANCE ENGINEERING (BPE); Hanahan, SC; 843.744.6559; bouchillonperformance.com

DIVERSIFIED CREATIONS; Brighton, MI; 810.227.4777;
diversifiedcreations.com

HAYS—HOLLEY EFI (HOLLEY PERFORMANCE BRANDS); Bowling Green, KY; 866.464.6553;
holley.com/brands

HOTWIREAUTO (SQUIER INC.); Mena, AR; 479.243.9115;
hotwireauto.com

MANCINI RACING ENTERPRISES INC.; Clinton Twp., MI; 800.843.2821 or 586.790.4100; manciniracing.com

MILODON INC.; Simi Valley, CA; 805.577.5950;
Milodon.com

MOPAR PERFORMANCE (FCA US LLC); Auburn Hills, MI; 888.528.HEMI opt. 4; Mopar.com/en-us/shop/performance/mopar-performance-parts.html

ROCK VALLEY ANTIQUE AUTO PARTS INC.; Rockford, IL; 800.344.1934 (orders) or 815.645.2271 (general);
rockvalleyantiqueautoparts.com

SCHUMACHER CREATIVE SERVICES; Seattle, WA; 206.364.7151; engine-swaps.com

SHOP HEMI (ARRINGTON PERFORMANCE); Brighton, MI; 866.844.1245 or 276.666.6767; shophemi.com

SUMMIT RACING EQUIPMENT; Akron, OH; 800.230.3030 (U.S.) or 330.630.3030 (outside U.S.);
summitracing.com

TUBE TECHNOLOGIES INC. (TTI); Corona, CA; 951.371.4878; TTIexhaust.com

WILCAP CO.; Plsimo Beach, CA; 805.481.7639; wilcap.com

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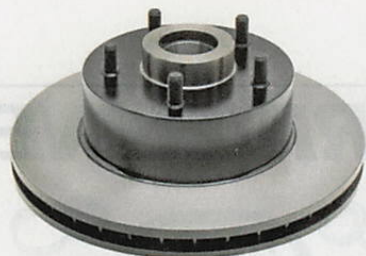
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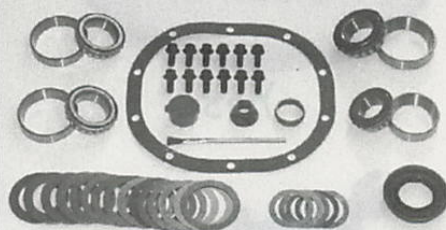


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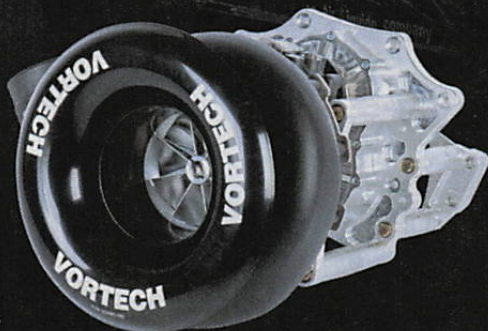
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Route 66: Worth the Kicks?



By David
Freiburger

Roadkill
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I've always been enticed by the call of a Route 66 road trip, but put off by the specter of fake-'50s nostalgia with imagery of Marilyn Monroe, James Dean, and finned Cadillacs at every turn. Finally, eschewing nostalgia phobia, I took the plunge, and my boy and I spent 12 days on The Mother Road from western St. Louis to Barstow, California. It's probably my greatest road trip (in competition with the time Rick P  w   and I drove a stock WWII Jeep from Phoenix to Fairbanks, Alaska).

Repellent '50s clich  s were more scarce than expected and I did a surgical job of avoidance. I also discovered that the road and its relics aren't about the '50s—cool remnants of neon excepted—but more so the '30s and '40s. New Mexico's crumbling adobe throws back to the early 1800s. So it's not Monroe, Dean, and Harley Earl that chafe—it's Tow Mater. I've praised *Cars* as a premium car flick, but its collateral damage is that trucks violated with windscreen eyes and buck teeth are pandemic on Route 66, outnumbered only by newly minted weed dispensaries. After the first two or three dozen Mater wannabes, a gag reflex develops.

However, there's incredible gratification for lovers of abandoned or repurposed gas stations, garages, parts stores, bars, motels, and drive-in theaters. The guidebooks don't mention most of this stuff, focusing instead on the spectacular neon signs, tourist attractions past and present, and places where Jesse James supposedly hid out. The route map of choice is *EZ66 Guide for Travelers* by Jerry McClanahan,

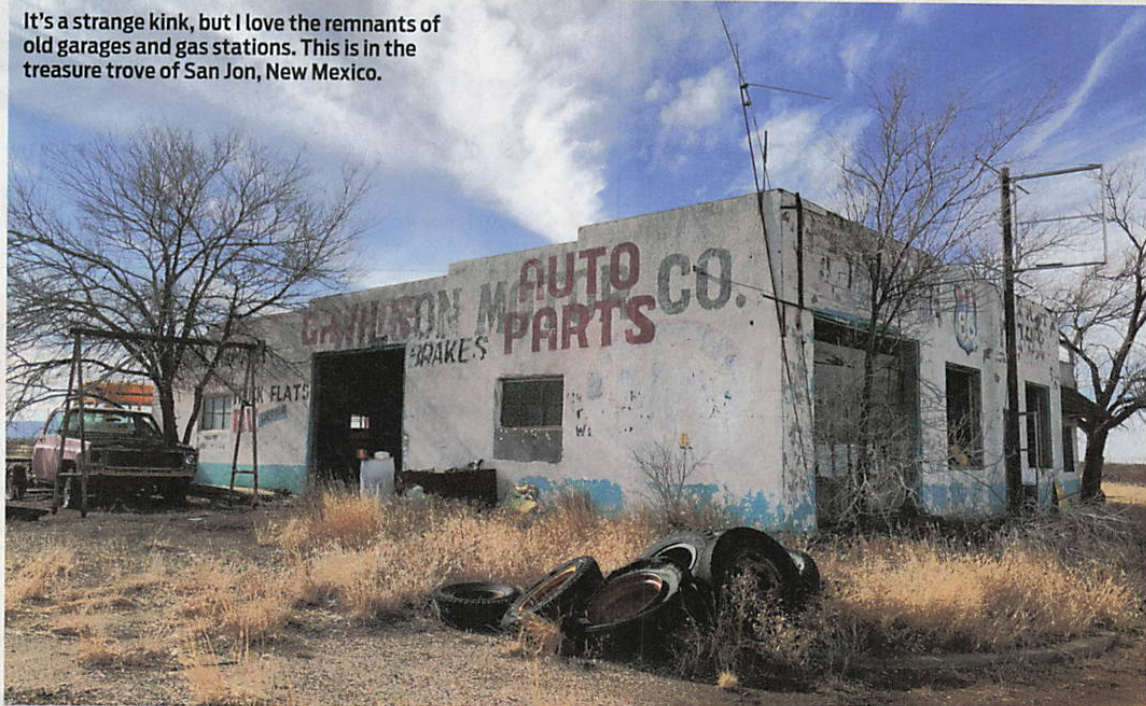
which I supplemented with half a dozen other pubs. If time is too limited for backtracking, I advise following McClanahan's paths for the '37-earlier roads (rather than the newer alignments) as they seem to have the most neglected towns and therefore the least gentrification and the most pure artifacts. The exception is the '37-earlier route through New Mexico; in that state, I'd stick to Route 66 near I40.

Here's more advice for like-minded gearheads, with the caveat that I never ran from Chicago to St. Louis. I found the segment from St. Louis to Oklahoma City to be the most rewarding long stretch. I'd skip Oklahoma City and Santa Fe, New Mexico entirely if I were to do it again. My favorite town for density of great oldness is Tucumcari, New Mexico. Unless you're traveling in a fragile hot rod, you should take all the old sections of ratty pavement and even dirt. It's worth it.

One disappointment is that, since my first road trips in the '80s, I've noticed a distinct cleansing of the old cars formerly strewn upon the countryside. They are rare on 66, except in overpriced rust collections. The last quality iron in the wild seems to be longbed pickups and vintage tractors.

Nevertheless, a Route 66 adventure is absolutely worth it, but for a rubble-loving gearhead like me, it's for entirely different reasons than what society has sold me for decades. Urgency is key, as many of the remains I photographed yesterday could collapse tomorrow. It's all disappearing by the day. So do this, and do it now.

It's a strange kink, but I love the remnants of old garages and gas stations. This is in the treasure trove of San Jon, New Mexico.



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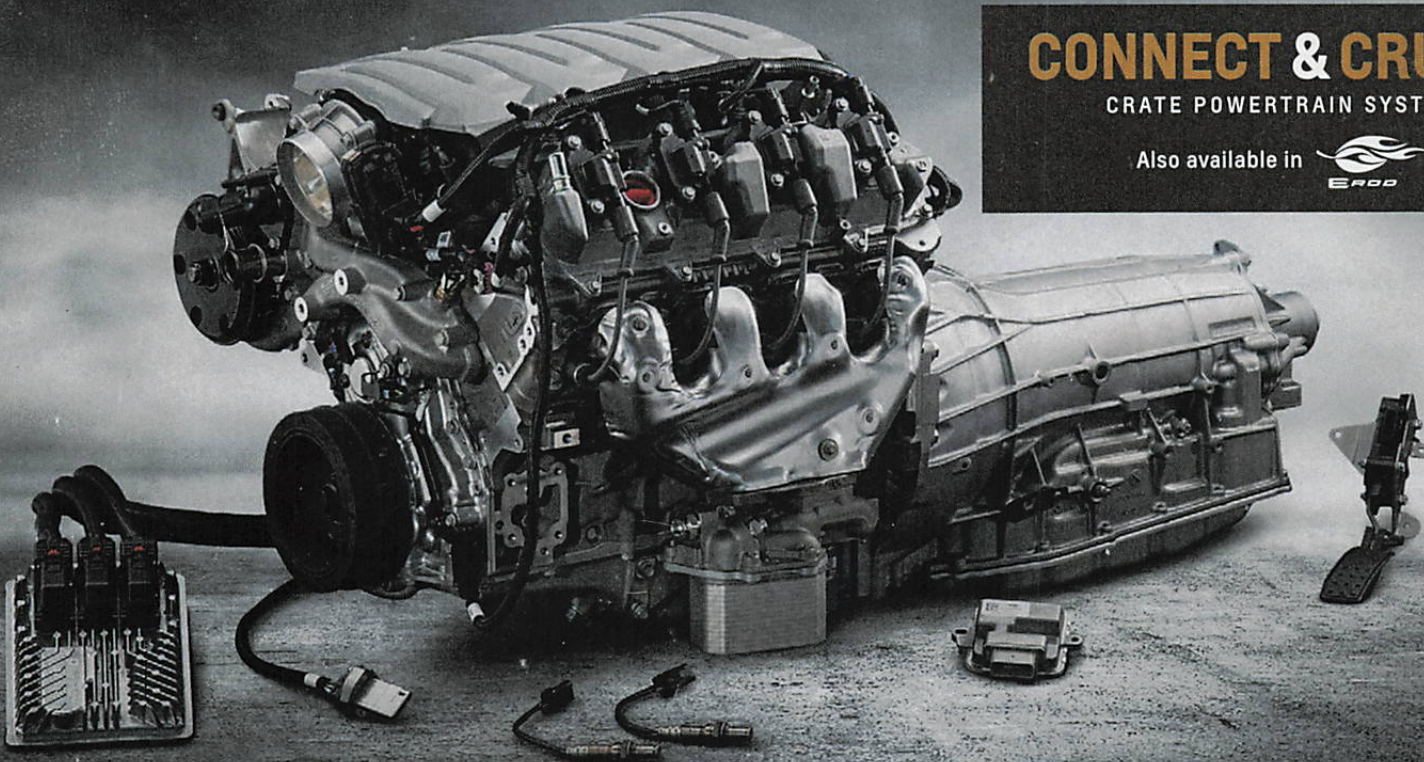
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